The Plough, the Loom, and the Anvil.

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POWER OF CONSUMPTION UNDER THE FREE TRADE AND PROTECTIVE SYSTEMS.

WE have on several former occasions desired to call the attention of our readers to the fact that the labor bestowed upon the conversion of food and wool into cloth, and that bestowed upon converting food and coal into iron, and iron into machinery, is not only all pure gain, but that the product of agricultural labor is actually greater in quantity where the loom and the anvil are associated with the plough, and where a portion of the community are employed in fashioning the products of the plough, than where the plough stands alone and all are producers. In illustration of this, we have pointed to the wonderful increase in the power of consuming cloth and iron and other commodities when made at home; and to the equally remarkable decrease in the power of consumption, when, from changes of policy, mills and furnaces are closed, and the farmer is compelled to look to distant markets for the sale of his produce, for which he is to receive pay in the cloth and iron that were before made in his neighborhood. To be satisfied that consumption increases with the facility of supply, and that the wool-grower finds his best customers where the loom is near the plough, one has only to go into New England, and there see, as we have lately done, thousands of men at their cattle-shows, all dressed in a manner to prove that their consumption of wool is vastly greater in proportion than that of the like number of people in States where the plough is distant from the loom. It is one of the first facts that strikes the eye of an observer, who has seen much of the North and the South.

The principal object of this journal is that of showing the farmer and planter, that the plough and the harrow *never have* prospered at a distance from the loom and the anvil, and teaching them that they *never can* prosper when so separated. Its first and greatest object is, however, the dissemination of TRUTH, let it lead to what course of action it may; and therefore shall we at all times be willing to present, for the consideration of our readers, the arguments of those who believe that prosperity is to result from employing men and wagons on the road, and ships on the ocean, in conveying our produce to foreign markets, for which Governor Wright said we ought to prepare, and which Commissioner Burke says we can do successfully, rather than from employing the same labor and capital in increasing the quantity produced, by aid of that division of employments which enables the consumer of food to take his place by the side of the producer of food, instead of flying to the west, there to become himself a producer of food, and to increase the necessity for employing labor in the work of transportation and exchange. With that view we now offer them the following article from a journal (The Public Ledger) that is perfectly consistent in its opposition to all measures tending to protect the farmer in his efforts to bring to his side prosperous consumers, and thus relieve himself from the necessity of continuing to impoverish himself and his land, by wasting labor and manure on the road and in distant markets.

"The depression of the anthracite coal trade has awakened general attention, and the

cause of the prostration has been the theme of much crimination and recrimination in the partisan journals. Among other reasons, it has been alleged that low duties had thrown our ports open to the free introduction of foreign coal, and that the produce of our mines was thus brought directly into competition with the foreign production. For the information of the public on this important point, we addressed the Collectors of the ports of Boston, New York and Philadelphia, the three principal ports of the Union, and have received from them comparative statements of the quantity and cost of coal imported direct into their several districts, for the three quarters of the present year, up to the 1st inst., and for the corresponding period of time last year, as follows:

	Boston.		New York.		Philadelphia.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.
1847.	52,717	———	30,040	$87,983	2,303	$4,694
1848.	57,060	———	22,487	64,874	1,464	2,111
	4,343		8,563	23,109	839	2,583

It will be seen by the above comparison, that, so far from there having been any increase of foreign coal imported the present year, the amount at the three ports named is less by 5,059 tons than for the first three quarters of last year. The same comparison, we have no doubt, will hold good at any port throughout the Union. At Boston, there has been a slight increase, but at New York and Philadelphia there has been a considerable falling off. The whole amount imported, however, is too trifling to merit a word of comment on the score of competition with the produce of our own mines. The Reading Railroad, of itself, brings down in three weeks more coal than is imported into the three principal ports of the Union in nine months. How idle is all the partisan vaporing of protection in the face of such a statement made to appear. If we enjoy so nearly the whole market now, against whom does the trade require protection?"

It is obvious to every one that the great coal trade of Pennsylvania is in an almost ruinous condition. Men who have for years devoted their labor and their capital to this great trade are ruined. Miners and laborers are compelled to seek elsewhere the employment no longer afforded them in the working of the mines. Railroads and canals that have cost twenty or thirty millions of dollars, have fallen in value to one-third of their original cost—and all this is here attributed to *over production*, which means that too many men have been employed in consuming food while producing coal, with which latter the market has therefore been glutted. Look, however, where we may, we see the same difficulty. The market is glutted with food, with wool, with cotton, and with tobacco, and if the men who have consumed food while producing coal had been employed in producing food, the glut of food would have been still greater than it is. Men must work if they would live, and if they cannot earn wages in converting food into coal and iron, they must endeavor to do so by producing food themselves, and every man who is deprived of the power of being a customer to the farmer becomes of necessity a rival to him. Everywhere around, it is the same. Not only are the coal mines being abandoned, but furnaces, and rolling-mills, and cotton and woollen mills are being closed, and labor is everywhere becoming surplus, *preparatory to its transfer to agriculture.* There is a glut of every thing required for the convenience and comfort of man—food—coal—iron—cotton and cotton cloth—wool and woollens—and yet the laboring man finds it more difficult to obtain the supplies required for his family and himself than he did when there was a glut of nothing. Why is it so? Because the places where food and labor were *on the spot* exchanged for iron and coal and clothing, have been closed by the working of the system adopted in 1846, the tendency of which is that of compelling the farmer to send his wheat, of which an acre yields ten or fifteen bushels, across the ocean to pay the distant iron-master for iron, which before he bought from his neighbor with potatoes and turnips and hay, of which the earth yields by tons, and thus to diminish his power of purchasing and consuming iron. Throughout the whole nation the power of consumption has been diminished, and therefore there is this glut of every thing, to continue, and to increase, until the planters and farm-

ers of the Union shall determine *with one voice, and as one man*, that they *will* have at their sides the machines and the men necessary for converting their food and their wool into the cloth and the iron needed to supply their wants. Let them do that, and the glut will cease, for every county in the Union will obtain its place of exchange, where coal, or iron, or cloth, may be obtained for food, and the power of consuming those commodities will increase, because the farmer will obtain larger crops, while saving the labor that is now wasted on the road, and at home for want of a regular demand for it, and returning to the land all the refuse of its products, thus increasing, instead of diminishing, its power of production.

Two systems are now before the farmers and planters of the Union for consideration. By the one they obtain a market at home for commodities of which the earth yields largely. By the other they are forced to depend upon foreign markets, to which they can send only those commodities of which the earth yields little. By the one, they will be enabled to consume largely of cloth and iron, because obtained in return for little labor. By the other, they will be enabled to consume but little of those commodities, because obtained in return for much labor. The tariff of **1842** gave the first. That of **1846** has given the last. Under the first there was no glut, because consumption was large. Under the last, gluts are universal, because consumption is small.

The glut of coal *does not* arise from any material increase in the quantity imported, and thus the assertions of the writer, in the article we have quoted above, are strictly correct, yet that fact proves conclusively the exhaustive nature of the process to which the nation is now being subjected. The duty on coal, and iron, and cloth, was reduced, because it was alleged that high duties diminished the power of consumption. To prove the correctness of this view, it would be necessary to show that the power of consumption increased with the reduction of the duty, and that the quantity imported was greater than would have been the quantity produced. Instead of this, we see that the market is glutted with a quantity scarcely at all exceeding that of last year, when it should have increased at least **600,000** tons, and the friends of the present system triumphantly assure us that this is not because of an increased import, because that increase has not taken place—thus proving that the new system which had for its object an increase in the power of consumption has been followed by a decrease in that power, and consequent deterioration of the condition of the people.

All this will be fully seen by comparing the consumption of coal, a necessary of life, in the last six years of the Compromise Act of **1832**, with that in the six years which followed the passage of the act of **1842**. The effect of the law of **1846** was suspended for a year by the famine of Europe in that year, and the paralysis which would otherwise have been seen in **1847** was thereby deferred to **1848**.

	Imported.	*Produced.*	*Total.*	
1837,	153,450	881,476	1,034,926	
1838,	129,083	739,298	868,381	Average
1839,	181,554	819,327	1,000,881	power of
1840,	162,867	865,414	1,028,281	consumption,
1841,	155,394	958,899	1,114,293	1,049,380
1842,	141,521	1,108,001	1,249,522	
1843,	41,153	1,263,539	1,304,692	
1844,	87,073	1,631,669	1,718,742	Average
1845,	85,776	2,023,052	2,308,826	power of
1846,	156,853	2,343,992	2,500,845	consumption,
1847,	148,021	2,982,309	3,130,330	2,192,687
1848,	140,000 *estimated*	3,000,000 *estimated*	3,140,000	

From this we see that the whole supply of coal furnished to meet the demands of the consumers had reached, in **1837**, the quantity of **1,034,926** tons.

The Compromise Bill of 1832 had then become fairly operative, and its effects were being more and more felt from year to year, the consequence of which was, that in 1842, five years afterwards, the whole quantity furnished to supply the wants of the greatly increased population, was scarcely more than it had been at first, and less, of course, per head. From that year forwards we see a rapid change, and in five years more we find it exceeding three millions, with every reason to suppose that in the present year it would attain four millions. Instead of this we see that ruin is spreading among the prosperous producers of coal and consumers of food, because of the want of a market for the products of their labor, and the home supply is likely scarcely to exceed that of last year, while the foreign supply is not increased, *because of the inability to pay for it.* The same capital and the same labor that have been employed would have given almost four millions, whereas it will yield but little over three, and thus are the comforts of the people of the Union *diminished* by the working of the present system, to the extent of some hundreds of thousands of tons of coal, with the absolute certainty that the same effect will be produced next year to a still greater extent. Had the tariff of 1842 remained untouched, four millions and a half of tons of coal would have been needed in 1849, whereas, it is now unlikely that the demand will exceed three millions, and all the foreign coal to take the place of the remaining million will probably not exceed 150,000 tons. The convenience and comfort of the community are therefore *diminished*, by measures adopted under the mistaken idea that the farmer and planter were to grow rich by substituting the *nominally* cheap commodities produced abroad for the *really* cheap ones produced at home.

If we look to the cotton trade, we shall find the same results. We close old mills, and we prevent the building of dozens of new ones, each of which would produce a million of yards of cloth, and thus we diminish the supply of clothing to the extent of thirty, forty, or fifty millions of yards; to supply the place of which we import an extra half dozen millions, the payment for which exhausts our resources, and the import becomes diminished because of our inability to pay for even this small quantity.

We close our furnaces and our rolling-mills, and we prevent the building of furnaces and mills that would produce iron by hundreds of thousands of tons; and to supply the place of these hundreds of thousands we import tens of thousands, the payment of which exhausts the land and its owners, and the power of consumption diminishes, when it would increase at a constantly accelerating rate were this policy of the nation one that would aid the farmer and the planter in their efforts to seduce the loom and the anvil to come and take their places by the side of the plough and the harrow.

Were the farmer offered a new plough, he would inquire if it would enable him to do more or less work in the same time, and if he found it would do less he would decline to take it. Were he advised to change his course of cultivation, he would desire to know if the new one would yield more or less food, or cotton, in return to the same labor, and if he found it would be less, he would adhere to the old one. Let him weigh the systems of 1842 and 1846 in the same manner, and if he find that the latter enables him to obtain more food, clothing, and fuel, than he had before, let him adhere to it; but if he find that under it the power of consuming food, and clothing, and coal, has diminished, and that the market is glutted with the same quantity that in the preceding year was readily absorbed, let him determine to have nothing to do with it. Let him, after having satisfied himself that such have been, and such must continue to be, the results, determine to unite with his friends and neighbors in the endeavor to secure the adoption of the measures now required to enable the owners of looms and anvils to come and take their places by the side of the plough and the harrow.

PLOUGHING.

WHAT NEW ABOUT THAT?

Of all operations this is the most important. Spading would prepare the ground more thoroughly, but only think of the cost!

Captain Yellot, a sagacious farmer, who led the way in improvement in the neighborhood of Baltimore, set the example of good ploughing and thorough tillage—he used to say, that when ground was well prepared, the work was more than half done before the corn was planted. There is no book in the world, where the whole subject of ploughs and ploughing is so well illustrated by diagrams and descriptions as in STEPHENS'S BOOK OF THE FARM—an English work of three volumes, of one thousand pages each, and which sold lately, (the English edition,) in Boston, for $30. We have it reprinted in this country, with notes, by the senior Editor of the Plough, the Loom, and the Anvil, for sale, the whole in two volumes for $6. The reader may judge of the fulness of the whole work, when told that under the heads of ploughs and ploughing alone, there are nearly one hundred references in the index.

We are really surprised that any man who has any idea of the work, and $6 at command, does not secure it while he may—and Thaer's Principles of Agriculture, which may be had for $3. The two works together for $8. On the subject of ploughing, the following seems worthy of being extracted from the proceedings of the Onondago county (New York) Agricultural Society, which seems altogether to indicate much more than ordinary care and intelligence to "do the thing up right," as the Yankees say.

REPORT OF COMMITTEE ON PLOUGHING.

The annual expense of cultivating and preparing the earth to produce various crops of grain, roots, and cultivated grasses, is immense. That which will lessen this expense, and at the same time tend to an increased product of the soil, would be considered a public benefit; because the cost of production would be less, the quantity produced greater, and the expense to the consumer decreased.

In the opinion of your Committee, the largest proportion of this expense is caused by ploughing the soil preparatory to a crop. The object of ploughing is always to pulverize the earth, and expose a fresh surface free from weeds or other hindrances which will prevent the vegetation, and subsequent growth of the crop to be cultivated. The time is within the recollection of all who have arrived at mature years, when numerous ploughings were considered indispensably necessary to prepare the earth for the reception of seed, to insure a reasonable prospect for the production of the various grain or root crops.

Subsequent experience has shown these opinions erroneous, and that when the earth is free from weeds and foul grasses, one ploughing properly performed is better for any crop than to have the process repeated. But in order to have the earth in so clean a condition that one ploughing shall answer for the winter and small summer grains, the process of summer fallowing is sometimes necessary, and when this is resorted to as a clearing process, *it should always be most thoroughly performed*, so as not to require repetition, for the process of summer fallowing is quite expensive, not only in labor, but also in the loss of the use of the land for nearly or quite one entire season. Many cultivators also think it tends to exhaust the soil. But when the ground is clean, the one ploughing which is given for each crop should be performed in a first-rate manner. But perhaps it may be said there is a diversity of opinion what constitutes good ploughing. To some extent this is true.

Your Committee will proceed to lay down some general principles which they deem important:

First, the ground should *all* be ploughed, and in no case *less* than six inches

deep. The fertility of the soil will be greatly increased if the depth is gradually increased to twelve inches, and a greater depth is desirable.

Secondly, the *furrow* should be well turned. And to do this the *width* of the furrow slice must always (except in summer fallowing) be graduated to the *depth* of the furrow. If the furrow is too deep for the breadth cut, the slice will stand edgewise. If the slice is too wide for the depth of the furrow, a "balk" will be left on which nothing ought to be expected to grow, and if the next furrow is properly ploughed, a hole will be left where the preceding furrow was improperly turned.

Thirdly, where the surface of the ground will permit, the furrow should be *straight*, that the work may be more easily performed and have a more workmanlike appearance than it otherwise would have.

Fourthly, where the earth is light and sandy, the flat furrow is best, because it leaves the soil more compact, and less likely to be injured by drought. If the soil is stiff and inclining to clay, the furrow is best if left at an angle of forty-five degrees, because the harrow will most effectually operate on the surface, and under each furrow a small channel will be left, which will assist in disposing of the surplus water which may fall upon the surface, and also will render the soil more loose and friable.

It may be said, these are simple rules, which every ploughman knew before. To this we reply, while so large a proportion neglect to *practise* them, we think it proper to call attention to them. The art of ploughing has advanced very much since the formation of this society, and the Annual Ploughing Match has in our opinion been one of the principal causes of it.

THE SEPARATION OF THE PLOUGH AND THE ANVIL.

THE MILL DAM IRON WORKS.—These extensive works, formerly carried on by H. Gray & Co., and which gave employment to a large number of hands, are now nearly or wholly given up, and the deserted buildings have a melancholy appearance to those who observed the business-look of the place a year or more ago. We hear that the Worcester Railroad Corporation talk of purchasing the site as a location for their machine shop.—*Boston Traveller.*

PENNSYLVANIA IRON WORKS.—The Miners' Journal, of Saturday, says: "Several of the principal establishments in this borough have, within a few days past, been compelled to discharge a large number of hands on account of the scarcity of work for them. Several colliery works, too, have recently curtailed the force employed in them, and there appears to be no work of any magnitude going on in this region at present. Labor is consequently in poor request, and the rates of wages extremely low."

We commend the above notices to the consideration of our agricultural readers, as specimens of the paragraphs which now daily meet our eye, begging them to reflect that every man expelled from a colliery, a furnace, a rolling-mill, a woollen or a cotton mill, and thus deprived of the power to earn wages to enable him to *buy* food, must go to work to endeavor to *produce* food, and thus are customers converted into rivals. With every increase in the number of his customers the farmer is enabled to improve his land, becoming rich himself. With every increase in the number of his rivals he is compelled to waste more labor and manure on the road and in foreign markets, impoverishing his land and himself.

OLD ENGLAND—OLD VIRGINIA—AND OLD MASSACHUSETTS.

READ AND YOU SHALL SEE—WHAT YOU SHALL SEE.

ITEMS like the following, extracted from an address to the ancient Massachusetts Agricultural Society, by James Richardson, Esq., are calculated, one would suppose if any thing could, to draw off the attention and heart-yearnings of the farmers and planters of Virginia, from the squabbles of party, and the pursuit of office, to their own condition and prospects, and to the consideration whether it be not time that measures should be laid in the policy and legislation of the State, if not of the general government, for drawing into activity and enjoyment resources such as nature has lavished upon no other equal area on the face of the earth.

In Mr. Jefferson's day, among the last things thought of was, for a Virginia gentleman, or the son of a Virginia gentleman, to place himself, for all the hopes and all the means of subsistence, in a state of dependence on the caprices of political fortune and the smiles of men in power at Washington. Mr. Jefferson himself even made it a matter of regret, in his correspondence with his old revolutionary friend, General Smith, of Baltimore, that it was found difficult to get respectable men to fill responsible posts under the government. Now there are no posts so poor but there are men poor enough to do them reverence; and the sons of men born to better times and better things, scarcely get rid of the egg-shell before they fly on the top of a neighboring stump, flap their wings, and pronounce half their countrymen to be totally unworthy and unfit for all public employment; proclaiming their own readiness to serve their country in—*the best office they can get!* And yet with all her great men, (and for stump-speaking she can beat the world,) with all her patriots, doubly refined in knowledge of the Constitution, and boiling over with zeal to serve the commonwealth; we find that lower Virginia, fully capable of sustaining five times its present population, without being crowded, embracing thirty counties, having in 1810 a population of 258,246, had, in 1840, a period of thirty years, increased only 15,000. Here, then, with all their fervor of patriotism, and all their deep reading of the Constitution, with all their suspicion of a wooden horse, in every corporation for lending money or building factories, we have a section of country of 8875 square miles, the most anciently inhabited part of the State, intersected with natural canals paying no tolls, and needing no repairs, open at all seasons of the year, on which the population is distributed at the rate of only about thirty to the square mile! and on which the ratio of increase has been only about *one and one-fifth per cent. for the last forty years!* enjoying all the time, as they suppose, the largest liberty, under a government republican in form, and nominally independent—but all the time sending abroad to Mother England for the produce of her looms, and her anvils, instead of compelling, as recommended by Mr. Jefferson in 1816, in his letter to Mr. Austin, "the manufacturer to take his place by the side of the agriculturist."

We shall presently see how different is the condition of Massachusetts, where the loom and the anvil have taken their natural but subordinate position in the neighborhood of the plough,—a State where people have the sagacity to know that the strength of two men combined can achieve what a thousand could never accomplish by individual strength; and therefore do they follow the dictates of common sense, by offering every encouragement to the combination of every species of power, monetary, intellectual, and physical; while in Virginia, there seems to be, not merely a hereditary,

but a sort of instinctive readiness to anathematize combinations of all sorts and for all purposes. Is it then to be wondered at, that exhaustion, poverty, and dispersion go on increasing from year to year?

Let us have leave to go into Milk-street or Pearl-street in Boston, and select a merchant, or into Lowell or Salem, for a shrewd self-made manufacturer, who never mounted a stump to make a speech in his life, and who never wrote thirty-seven columns on a constitutional point, imagining himself all the time a Lucius Junius Brutus, Solon or Lycurgus; but give him the government of the State, with power to make laws, to encourage combination, and to attract and reward genius and industry, and our life upon it, if not counteracted by the barbarous anti-American policy of a yet higher power, in twenty years he would have her coal mines and her iron mines, her water power and her wool-growing and wool-manufacturing power, all in full blast, and Richmond and Norfolk teeming with thriving populations of 100,000 inhabitants.

But we are forgetting our extracts from Mr. Richardson's address—from which we beg the reader to proceed to the perusal of what we propose to say next, about the *statistics of a town of two-and-a-half years' growth* in the midst of a rocky and a sandy country, where, in spite of rocks and sand, and hills clad with snow one-quarter of the year, agriculture still flourishes, and every farmer is out of debt, *because*, there the ploughman's whistle mingles in harmonious concert with the sound of the shuttle and the hammer. Hence it is, that while that glorious region, lower Virginia, has in thirty years increased not two per cent. in fifty years, Massachusetts has increased nearly one hundred—but look at the difference in the proportion of the people at the plough and those at the loom and the anvil in the two States. In Virginia, employed in agriculture 318,771, in manufactures 54,147. In Massachusetts, in agriculture 87,837, in manufactures 85,176. With about one-quarter part of the soil yet uncultivated, England and Wales maintains a population of three hundred to the square mile, but English looms and anvils manufacture not only for themselves, but her people are bowed down with taxes, and the whole world is taxed to enable her to keep up fleets and armies, that against all nature and the interests of the whole world she shall force the world as she does, (the United States included,) to take the products of her looms and her anvils. The whole civilized and uncivilized world pays tribute to her colonial policy—to her determination to force the wool and cotton of other countries to come to her looms, instead of our forcing her looms to come to our cotton and our wool. Are farmers and planters to be for ever ridden by party hacks, in perpetual blindness to their own interests?

"An impression of the progress and importance of agricultural improvements may be received from a glance across the Atlantic to the land of our ancestors. The little Island of Great Britain contains a less extent of cultivated land than the whole territory of the State of Virginia, and but a very little greater extent capable of any cultivation;* and yet this small speck on our earth's surface sustains over sixteen millions of people, some in profusion, many in plenty, and nearly all in comfort, with the aid of foreign bread stuffs to feed them less than two weeks in the year;—besides feeding an immense number of animals,—horses kept for service, splendor or sport, and one sheep to every acre of cultivated land on the whole island; yielding a sufficient quantity of wool, though not of a suitable quality, to clothe their whole population, and the whole population of the United States.†

* According to the latest surveys, Great Britain, including England proper, Scotland and Wales, contains 56,833,330 acres in the whole—cultivated land 34,014,000 acres—land uncultivated and capable of cultivation 9,934,000 acres—and land incapable of any cultivation 12,885,330 acres. The State of Virginia, it is well known, contains 40,000,000 of acres.

† The lowest calculation as to the number of sheep kept on the island of Great Britain at present is 36,000,000. Their population now is not far from 16,000,000, and that of the United States somewhat over 12,000,000. [This was in 1832.] The quantity of wool

"Though *our* progress in agriculture has been far from discouraging, and the quantity of bread-stuffs exported not inconsiderable,—yet the straw of the grain of that small island for a single season, at the current price of common straw here, is of greater value than the whole of the bread-stuffs exported from the United States for ten years.* And we may safely assert that should the productions of that small spot of earth be entirely destroyed but for a single year, not all the surplus food produced on the whole earth would be sufficient to save their population from famine. Now look back on this land of our ancestors in the time of Julius Cæsar, and what does it present? Some hundred thousand demi-savages, subsisting by fishing and the chase, with painted limbs, clad in the skins of beasts, armed with scythes and stakes hardened in the fire, and resisting the mailed bodies and well-tempered blades of the Roman legions."

HOW INDUSTRY THRIVES AND TOWNS GROW UP,

WHERE THE LOOM AND THE ANVIL TAKE THEIR PLACE BY THE SIDE OF THE PLOUGH.—STATISTICS OF LAWRENCE, MASSACHUSETTS.

In October last, we had the pleasure to accompany one of its enterprising founders in a ride to the town of Lawrence, commenced just three years since on the banks of the Merrimac, with water-power and other advantages not to be mentioned in comparison with those which nature has provided at the great Falls of the Potomac or at Richmond, and at many other points in the Southern States. Curious for information, and anxious to let our friends in the South see what can be done by men who know how to encourage combination, and how to laugh at and take advantage of the ignorance and blindness of those who think that the plough thrives best at a distance from the loom and the anvil—we took the opportunity to play the Yankee, and to ask a smart chance of questions, the result of which the reader will here find. He will need no assistance to enable him to *calculate* how much the value of land is enhanced by having, here and there all over the State, people in all sorts of employment ready to buy the *tons* that rich land will produce, instead of the *bushels* of wheat and corn and pounds of cotton, that only can be grown where the plough is distant from the loom and the anvil—when, in a word, the consumer is at a great distance from the producer, and only to be reached by great consumption and loss of time and manure in going over bad roads and wide seas. We commend the growth of this young Yankee town to the good people of Richmond, and the effect of it on the landed interest to the land-holder in the neighborhood of Richmond.

What a teacher would such a town be at the great Falls of Potomac, to the good people in Montgomery county, as to the "proper rotation of crops!" to the want of a knowledge of which has been exclusively ascribed the exhausted condition of that county.

For these statistics we are indebted to the civility and attention of Samuel Webber, jun., Esq.,—one of those young New England men, who carry old heads on young shoulders—another choice fruit of condensation of population; for constant attrition will keep off rust, and sharpen and polish mind

annually produced in Great Britain, exceeds 140,000,000 of pounds; and allowing, according to their best calculations, five pounds to the head, including both sexes and all ages and sizes, the quantity of wool raised there would clothe the population of both countries, estimating the population as above.

* According to Sir John Sinclair, the straw of Great Britain, calculating three-fourths of it for manure at 3d. per stone of 22 pounds, and the other fourth for feeding stock at 6d. per stone, is worth 16,225,000 pounds sterling—equal, at $4 80 per pound sterling, to 78,880,000 dollars; the present price of common straw here, being from 33 to 37½ cents per 100 pounds, amounts with great exactness to the price stated by Sir John Sinclair—and the average amount of bread-stuffs exported from the United States in the last ten years is about 7,000,000 dollars per annum."

and manners, as it does even steel and stones. Boys in some States follow the plough, such as in others are followed by servants, to keep them from being poked by the cattle or falling into the water!

The town of Lawrence is situated on the Merrimac river, about midway between Lowell and Haverhill, and contains some six square miles of territory, nearly equally bisected by the above river. The actual origin of the town may be dated in 1844, when the Messrs. Lawrence and others bought about 3000 acres of land in this place, preparatory to the location of a new manufacturing town. In 1845, the gentlemen above-mentioned petitioned the legislature of the state for a charter for a corporation to be known as the "Essex Company," with power to build a dam, construct locks and canals, and create water-power to use and sell for manufacturing purposes, with a capital of $1,000,000, in shares of $100 each. This charter was granted in March, 1845, and on the 16th of April following the company was organized, and the officers appointed. Charles S. Storrow, Esq., then agent of the Boston and Lowell railroad, was appointed their treasurer and agent, and acted as chief engineer until April, 1846, when the valuable services of Captain Charles H. Bigelow, formerly of the engineer corps, were also obtained for the company; and to whom, through Mr. Webber, as aforesaid, we are indebted for much valuable information, contained in the following statistics.

In May, 1845, Mr. Storrow came upon the ground, and, August 1, excavations were commenced for the foundation of the dam, the first stone of which was laid September 19, of the same year.

In the meantime the plan of the town was laid out, and the legislature of 1846 granted charters to several other corporations, as follows:

February 2, 1846, to the "Bay State Mills," with a capital of $1,000,000, since increased by the legislature of 1848, to $2,000,000, for the manufacture of woollen and other goods. February 3, 1846, to the "Atlantic Cotton Mills," with a capital of $2,000,000, for the manufacture of cotton goods. March 10, 1846, to the "Methuen Bleaching & Dyeing Company," with a capital of $500,000, for the manufacture of cotton and woollen goods, and for bleaching, dyeing, calendering and printing. March 25, 1846, to the "Union Mills," with a capital of $1,000,000, for the manufacture of cotton, wool, and flax. Making the whole capital incorporated here for manufacturing purposes, $6,500,000.

Consequent on the commencement of these operations, was the joint purchase, by the Essex Company, and the Locks and Canals Company, of Lowell, of the Great New Hampshire Lakes, comprising a surface of water of 120 square miles, and purchased with the view of equalizing the power of Merrimac river, and producing a flow of water at all seasons, equal to the average yearly amount.

April 16, 1846, the grounds of the Bay State Mills were laid out, and April 16, 1848, the first water-wheel of the company was set in motion. April 28, 1846, was the first sale of land at auction by the Essex Company. June 9, the ground was first broken for the Atlantic Mills, and July 10 the first stone was laid in the foundation of the foundery connected with the Essex Company's machine shop. These are the most important dates of the commencement of operations, and fearing to occupy too much space, with more minute though interesting particulars, we will pass to the present situation of the town.

Three only of the different companies, incorporated as above, have as yet commenced operations—the Essex, Atlantic, and Bay State Mills, and the amount of work done by them to the present time is very nearly as follows:—commencing with the works of the Essex Company, the first in order is

their dam of solid masonry, 1629 feet in length, divided thus: length of overfall, 900 feet; south wing, 324 feet; north do. 405 feet, running to unite with guard-locks. The whole structure is firmly embedded in, and bolted with iron to the solid rock. Thickness 35 feet at base, 12 ft. 6 in. at lower end of sloping crest-stone. Batter on the front, 1 inch to a foot; on the back below the crest-stone, 45°; greatest height, 40 ft. 6 in.; mean do. 32 feet. Face and top of granite, with hammered and dove-tailed joints, bolted in many parts with iron. The whole masonry of the dam, and a considerable portion of the adjacent wing and river-walls are laid in the most compact manner with cement mortar. The mass of masonry is about 27,500 cubic yards. Hammered surface of granite, 122,000 square feet. Rock excavation, 1700 cubic yards. Cost, $250,000, including a heavy embankment in rear. Effective head and fall, 28 feet, for the whole Merrimac river.

Their main canal is on the north side of the river, and is in length 5330 feet; width at upper end, 100 feet; at lower do. 60 feet, taken on the surface of the water. Depth, 12 feet, of middle portion, and 4 feet at side walls. Area of water-section, 944 square feet at upper, and 464 square feet at lower end. Earth excavation, 175,800 cubic yards. Mass of side walls, 11,000 cubic yards. Cost, including guard-locks, navigation-locks at upper and lower ends, and waste-weir, $185,000.

The Essex Company have erected a spacious machine-shop of stone, 404 feet long by 64 wide; 4 stories high, with 3 large porches in the front and rear. The lower story is 17 feet high in the clear, admitting the free ingress and egress of complete locomotive engines. All the floors are sustained by a double row of handsome iron pillars. The water is brought to the wheels in an underground penstock, a distance of about 540 feet from the canal, and is carried from thence in a covered raceway, of two arched passage-ways of masonry, each 13 feet wide, 15 feet high, and 1000 feet long. Two iron turbine wheels are used for driving the shop, either being capable of carrying all the machinery in case of necessary repairs on the other.

The forge-shop connected with the above, is 232 feet long, by 53 ft. 8 in. wide, and 17 feet high in the clear. It will contain 32 forges of different sizes, with trip-hammers of various dimensions, suited to any work.

Another turbine-wheel is placed here, of the same force with those used in the shop, for driving the hammers, and the blast for the forges and foundery: its raceway of stone masonry debouches into the great raceway of the shop. The forges are arranged in the middle of the building, and the smoke is conveyed by an underground cylindrical flue of brick, 4 feet in diameter, to the great chimney in the yard.

This chimney is a circular stone shaft, 14 feet exterior diameter at base, 8 ft. 6 in. diameter at top, and 142 feet high. The interior flue is of brick, 5 feet clear diameter, surrounded by an air-chamber nearly to the top, and receives the smoke from the steam heating apparatus, the annealing furnaces, and the forge-shop.

The foundery is 154 feet long, by 90 feet wide, with walls 22 ft. 6 in. high. It is thoroughly well lighted and ventilated. Its present product is 6 to 8 tons per day, and its future capacity may reach 30 to 35 tons daily.

The warehouse, store-house, pickling-house, annealing-house, and heating-house, will constitute a range of buildings 315 feet long, by 43 ft. 6 in. wide, and mostly 2 stories high. The foundations of all these buildings are laid, and the warehouse, annealing-house, and heating-house constructed. A pattern-house is soon to be built, 150 feet long, 53 ft. 6 in. wide, and

3 stories high. All the buildings in the machine-shop yard, above enumerated, are entirely of stone, furnished by the company's ledges.

Several lesser buildings for the storage of iron, coal, sand, &c., and for manufactured machinery, have been or are soon to be constructed. A railway connecting with the various main lines entering the town, completely encircles the machine-shop premises, and is conducted in and about the different buildings.

This machine-shop and its appurtenances are to be devoted to the manufacture of cotton and woollen machinery, locomotives, turbine-wheels, and in general of all machinery of which iron forms the principal part.

A square of 50 commodious brick tenements, good enough for any man to live in, has been erected for the accommodation of the workmen employed in the shop and foundery, &c., and 50 more are in contemplation. When in full operation, 7 or 800 men will be employed in the works.

The Essex Company have also constructed a main sewer for the use of the town. It is built of brick, in cement where it passes under the canal, and the remainder of stone masonry. It is half a mile long, and sufficiently large for a man to walk erect—say 6½ feet high, by 3 feet wide.

The Atlantic Cotton Mills were incorporated with a capital of $2,000,000, of which $1,350,000 has been paid in for present purposes. The site of their mills is 1500 feet in length, measured along the canal, and the proposed number of spindles 50,000, for the manufacture of coarse cottons. The power employed may be reckoned as equal to that of 1000 to 1200 horses. The number of hands to be employed will be probably 1500 or 1600.

The buildings of this company will consist of 4 mills, each 220 feet long, by 63 ft. 8 in. wide, and 5 stories high; 4 picker houses, each 73 ft. 4 in. long, by 53 ft. 4 in. wide, and 3 stories high; 3 cotton houses, aggregate length, 650 feet, and 53 ft. 8 in. wide, by 25 feet high, sufficient for the storage of 20,000 bales of cotton. A range of buildings 400 feet long, by 42 ft. 8 in. wide, 2 stories high, for repair shop, cloth room, counting-room, storehouses, &c.; 10 blocks of boarding-houses for operatives, making a range of handsome brick buildings, 3 stories in height, and amounting in all to over 2600 feet in length.

Of the above, two mills with all their appurtenances have been already constructed, being more than half of the whole. Also the feeders, raceways, and the major part of the wheel-pits of the remaining two mills. The machinery for mill No. 1 is already placed, and that for No. 2 is ready to be so. These two mills will go into operation as soon as the turbine-wheels, now constructing, can be set up. Three of these wheels are placed in a wheel-house between each pair of mills, and so arranged that one mill will be driven by each of the external wheels, while the centre one can be used as auxiliary to either of the others, or to take the place of either in case of accident or repairs.

The mills are heated by an apparatus entirely separated from them, and for this purpose steam will be used. One handsome octagonal brick chimney, 145 feet in height, has been built, and another similar one is to be added.

The work already executed for the Atlantic Company, may be approximately estimated as follows, viz.:

No. of bricks laid,	10,661,439
Masonry in cubic yards,	44,700
Granite in cubic feet, (mostly hammered,)	35,611
Slate roofing in *acres*,	4½
Earth work in cubic yards,	260,000
Total expense of constructions hitherto, about	$600,000

This work has all been done for them by the Essex Company, and some work has been done by the Essex Company prospectively for another corporation, in establishing a plank piling between the canal and the river, and in building a large brick culvert under the canal, both of which operations could be effected with vastly greater convenience before filling the canal than after, and were done accordingly. For this purpose 67,500 cubic yards of earth were removed, and 120,000 bricks consumed.

The Bay State Mills erected, in 1846–7, three blocks of spacious boarding-houses for their operatives, each 250 feet by 36, 3 stories high, containing 8 tenements each, with 4 *Ls* in the rear, 16 by 18 feet, 1 story high, and containing 877,856 brick to each block, with sewers running under the sheds to the same, supplied with water from the canal by a cast-iron pipe, and discharging through a main sewer placed at right angles to the above, into the Merrimac, after passing under the canal and river mill, and containing in all 1,005,039 brick.

Also the east of their three mills, 200 feet long, by 48 ft. 8 in. wide, with front and rear porches, each 20 feet by 23, and 8 stories in height, being 105 ft. 8½ in. high to ridgepole, lighted by 382 windows, and containing 1,901,673 brick, with foundations of massive stone-work, 40 feet deep in front, and 28 ft. 6 in. in rear, and costing altogether about $150,000.

They also erected a building along the line of their river-wall, 998 feet long, by 40 wide, with wings at right angles to the line; one 240 feet by 40 feet, and one 240 feet by 48 feet. The centre of this mill, on the river, is 42 feet by 52, and 5 stories high, the remainder 3 stories, though some part of it is divided into 4 stories of less height each, for dry rooms. This mill contains 3,828,160 brick, and is lighted by 911 windows, and will be partly appropriated to manufacturing purposes, and partly to dry rooms, dye and boiler houses, coal sheds, &c. In each wing are to be 12 boilers, to supply the necessary steam for dyeing and warming, with chimneys 11 feet square at base, and 135 feet high, containing, the one, 157,516 bricks, and the other, 167,818 do.

This year, (1848,) the centre mill has been erected, of the same size as the east one, but with wings, 62½ feet long, and two stories high, to contain boilers for supplying the necessary steam for heating the mill, and for the dressing and finishing departments. (The east and west mill will be supplied from the boilers in the wings of the river building.) This mill is lighted by 463 windows, and contains 2,162,532 bricks.

There are yet to be built another mill, and a range of buildings, 800 feet by 38, along the canal, for counting-rooms, storehouses, watch-house, &c., which will form, with the river mill and its wings, a hollow-square, or rather parallelogram, within which stand the three mills above mentioned, two of which are now built, and the foundation ready for the third or west one, making an almost solid mass of buildings, 1000 feet by 400.

This will be, when completed, the largest woollen manufactory in the world, and the only one in which all the processes are concentrated, for making some of the goods intended to be produced. It will consume 2,000,000 lbs. per annum of the finest quality of American wool, which is expected to be supplied by the flocks of the Great Western Wool District, including Ohio, Pennsylvania, and Western New York. It will require a proportionate quantity of dyestuff, leather, and other manufacturer's articles, and will employ about 2500 hands. The power will be obtained from 7 breast-wheels of the first class, each 23 ft. 4 in. long, by 26 feet in diameter, and of 125 horse power each, 2 of which wheels will be placed in each main mill, and one in the river mill. These mills are intended to contain 80 sets of cards, 144 jacks of 180 spindles each, and 8 of 200 each, with

a sufficient number of broad and narrow looms to consume the yarn produced. The present intention is to run one mill on cassimeres, one on broadcloths, and one on shawls, and it is proposed to make goods of a style and quality never before produced in America.

But a small portion of the machinery of this company is yet in operation; 7 sets of cards, 2000 spindles, and about 60 looms are now running, and producing an article of plaid shawls, equal, if not superior in style, fabric, and colours, to any imported, and it is proposed in the course of the winter to set up 100 looms on the same floor with those now running, making a weave-room 476 feet by 40, filled with twelve-quarter looms.*

The work now done by this company may be summed up as follows, viz.:

Earth removed, in cubic yards,	242,063
Rough stone, (foundations,) in perch,	64,402
Granite laid, in cubic feet, about	80,000
Bricks laid,	11,951,398
Slate roofing in *acres*, nearly	4

And about 4,500,000 more brick will be laid ere the works are completed.

The total cost of constructions so far, in round numbers, may be estimated at $800,000.

These works were designed and executed by Capt. Phineas Stevens, of Nashua, N. H., and are in every respect models of solidity and strength, besides having been executed with great skill and rapidity.

These three companies will, when in full operation, maintain a population in the town of about 15,000, including 5000 directly employed in the mills, and the town may be expected to increase in that proportion: that is to say, for every 1000 employed in the mills, 3000 may be considered as the increase of population.

Gas-works have been established by the associated companies for lighting their mills, at a cost of about $30,000, and so constructed as to be capable of increase when called for by the wants of the town.

A foundation has been laid for a valuable library, by a donation of $1000 from the Hon. Abbott Lawrence, which has been appropriated to the purchase of scientific works, by a society legally organized as the Franklin Library Association.

Eight religious societies have been formed, and most of them have erected suitable places of worship. An elegant town-house is under process of construction, and a large and handsome brick grammar school is nearly completed. Public and private schools have been established, and are well managed and fully attended.

A bank has been opened, with a capital of $200,000. Three weekly papers have been established. A fire insurance company has been formed, and an efficient fire department has been organized; and it is now proposed to build reservoirs in different parts of the town, to be kept full of water by the force-pumps of the different mills.

The Essex Company have presented to the citizens a common in the centre of the town, of 17 acres, which is to be appropriately laid out, and ornamented with trees and fountains. Two fine hotels are in operation, and an aqueduct company has been chartered, to supply the town with pure water for domestic purposes.

Since the commencement of the works, the Boston and Maine Railroad (to Portland) have altered the location of their track so as to pass through the town, and are now building a large repair-shop and engine-house on the opposite side of the river. A railroad has been built to Lowell, one to Salem,

* Twelve-quarter, *i. e.*, three yards. A technical term, referring to the width of loom.

and one is now under construction to Manchester, N. H., giving unequalled facilities of transportation to any part of the country.

The whole power here is calculated to be about equal to that of Lowell, and it is confidently expected, that at no distant day we may see on this ground, three years ago almost a desert, now a flourishing town of 8000 inhabitants, a manufacturing population second only to Lowell in size, and equal to what Lowell now is.

From the success of Lowell, the hopes were formed on which this gigantic experiment was founded, and from Lowell have been drawn much talent and mechanical skill. Founded by the same men, for the same purpose, it affords ample evidence of the power of American Industry, and the energy of New England men; and where, four years ago, little was heard save the lowing of cattle or the scythe of the mower, the air now rings with the sound of the hammer and the scream of the locomotive, while the rise in the value of farms, for miles around, bears ample testimony to the benefits which the Plough may derive from the Anvil and Loom.

Now, in many parts of the country, it may be supposed, that the men who can command the means of founding and carrying forward such gigantic undertakings must soon become enervated by the luxurious indulgences which such means must place within their reach; and hence that, as in some other parts of the world, the care of such establishments would be devolved on subordinates, leaving the principals to pass their hours daily in social and convivial enjoyments. Yet what ignorance of the habits of these enterprising Yankees would such a supposition betray! Reared in habits of intellectual activity and systematic attention to business, they find their greatest pleasure in that which has been the invariable practice of their lives, and thus it is that they persist in the personal care and supervision of their affairs, as long as their physical powers, prolonged by a course of temperate industry, remain unimpaired; nor even then do they cease to evince the force of early associations. On the contrary, you shall see these venerable old gentlemen, the Brooks's, the Perkins's, the Appletons, and others, coming from their magnificent villas in good weather to their old haunts in Boston, if only to hear how the world wags, just as "old Whitey," the war-horse, turned out to grass for the remnant of his days, at every "sound of the trumpet" will continue to say "Ha, ha: and he smelleth the battle afar off, the thunder of the captains and the shouting."

Few who have not seen it on the spot can have an idea of the labors *these* men of means undergo—and that of all labors the most wearing and tearing—the labors of *thought;* for besides the direct management of their own vast operations, they have to maintain a world-wide correspondence at home and abroad. You shall see such a man as S. Lawrence, for example, returning to Lowell from a flying visit to large concerns at Boston, hurry from the cars to take his seat in the mills, there to examine with his own hands and eyes hundreds of pieces of goods as they are brought and laid before him, and go thence to answer with punctuality and care voluminous inquiries, it may be, from wool-growers in the West, or from others, who propose to embark in the business of manufacturing in the South.

Ah, Reader! if you would see the effects of a spirit of *combination*—of a readiness to facilitate, instead of denouncing, the association of men and means, to lend money and to build factories and railroads, and to do for the development of internal resources, and the creation of wealth and power, by union, that which in other States is never done, for want of it; go to New England—to Rhode Island—to Connecticut—to Massachusetts. By the by, we remember last winter dropping in at the hotel in Annapolis to dinner, where there were many members of the legislature, when one of them, "a limb

of the law," or rather a sort of half-lawyer half-planter, selected by planters of a neighboring county, for his aptitude at legislation, displayed his super-refined knowledge of the political economy that belongs to agriculture, by vehement denunciations of incorporations of all sorts—to lend money—to erect factories—or to make roads. He would enact laws that should be a warning to every man who should dare give aid or countenance to such associations, on any account, little or big, that he should do it at the peril of involving his whole estate. Is it, then, we repeat, where the farmer and the planter select such men for law-makers, any wonder that exhaustion, poverty, and dispersion go on increasing from year to year? The French have a motto, *L'union est la force.* This gentleman's motto is the reverse, he thinks the fagots gain strength by *separation!!*

DIFFERENCE IN THE QUALITY OF GRAIN PRODUCED IN A NORTHERN AND SOUTHERN CLIMATE.

The able Editor of the South Carolinian says:—

We go at length into this scientific description of the component parts of wheat, which consist of gluten, gum, starch, sugar, bran, and water, so that our remarks may be thoroughly comprehended. Starch is by far less nutritious than gluten, and abounds in wheat in the proportion of about 6 to 1 of gluten. The latter is then the valuable nutritious matter in wheat, and from all that has been developed by the aid of science, it has been clearly proven that gluten can be varied and increased by climate and the character of the fertilizers used to promote the growth of the plant. The mere difference in climate, upon a fair trial, and by analysis of the grain, has resulted in the following satisfactory statement, in favor of the warmest regions in which wheat is successfully grown:

Warm Climate.

Starch	56.05
Gluten	14.55
Sugar	8.48
Gum	4.90
Bran	2.30
Water	12.30
	100.49

Let the reader look below at the result of the analysis of wheat grown in a cold climate, and compare the great preponderance of starch with that of the former. Also observe the large amount of gluten and sugar contained in the grain grown in a warm climate, and estimate the comparative value of that which contains so large a proportion of these essential ingredients which constitute in the main the nutritious qualities of the grain, with that which is greatly deficient in those substances:

Cold Climate

Starch	71.49
Gluten	10.96
Sugar	4.72
Gum	2.32
Bran	1.00
Water	10.00
	100.49

These statements fully show the great superiority of our climate over more northern regions for producing the most nutritious grain.

ADVANTAGES TO BE DERIVED FROM A MORE EXTENDED USE OF OXEN

IN THE HUSBANDRY OF THE UNITED STATES. (Concluded.)

BREAKING.—The sooner this is commenced, the more complete will be the command of the teamster. It would be well, if convenient, to have them *named* and haltered, and taught to stand and to start, to "gee" and to "haw," when not more than a year old, and slightly worked in the summer and autumn after they are two. *Gee* and *haw* are the terms used in most parts of the country. The first indicates that the yoke is to incline off to the right, or from the near side on which the driver should always take his stand. The yoke, however, should not be put on their necks until they are to be worked, as they might acquire a habit of running off in it, which it will be found very difficult to correct.

The directions which follow are taken principally from practical observations by T. P. Stabler, of Montgomery county, who has performed in Maryland all the requisite labor on a farm of one hundred and sixty acres, with but one horse in addition to his oxen; and of Mr. Gilman, then of Alexandria. "The proper time," says Mr. Stabler, "for putting them to work, is at three years old; and such as have not been handled, as above recommended, while growing, should be driven round the field for a day or two, before being yoked, so as to tire them." The propriety of this is proved by the greater ease with which they are broken, when taken and yoked directly out of a drove, before they have time to recruit from the fatigue of travelling. Instead, then, of being yoked two together, they should be tied by the horns (with a rope slipped over and resting on the top of the head) to the side of a house, taking care that there be no place for the horns to become entangled, and stand tied in this manner till they cease to pull by the cord, which will in most cases be in a day or two. They may then be led very readily, and taught to turn, stop, or start, singly, just as a colt may be, instead of coupling two together at first, which any man in the care of horses would condemn, as being most likely to end in the destruction of one or both, which has not unfrequently happened with young steers when forcibly yoked together in the first instance.

"When two young cattle," says Mr. Stabler, "are yoked and turned loose with their tails tied together to run and plunge about, they are almost certain to acquire a habit of running away; and even should this not be the case, one, and sometimes both, lose a part of their tail in these violent exertions. When they are sufficiently broken to the halter, they may be placed side by side, for the purpose of receiving the yoke, having reference to their relative size, strength, and mastership; because, if one is stronger and more free than the other, he should be placed on the off-side that the team may rather incline to, than from the driver."

If one should be larger than the other, he will be likely to be stronger and more free; and, should they be put to the plough, the furrow ox being the larger, the yoke will be kept nearer a level than in the other case. It requires but little observation to see that they are easier to be turned to the right, or made to "gee," than to the left, or to "haw," or "come hither:" therefore, if the master-ox be on the off-side, he will assist in controlling the near or left one in "coming round;" but when reversed, and the master-ox on the near side, and he not altogether willing to "come here," the team is some time stationary; for let the then off-ox be ever so willing to obey the voice of the driver, the horn of the near one speaks a contrary language, equally

intelligible. After the yoke is put on securely, their tails should be well tied together, and they suffered to stand tied as before until a strong pen is built round them, not more than sixteen or eighteen feet in diameter, taking care that the ends of the rails do not extend inwardly. The ropes should then be loosed, if possible, in such a way that they will not be sensible of it. Here they will soon learn to turn themselves about, without one violent exertion, or the least fright. They should be tied up as before, at night, their tails untied, and the yoke removed, to be replaced in the morning as before; and the day following they may be led or driven in a larger space. By this time the cause will be gained in a manner calculated to ensure a prime pair of cattle. They may now be attached to something light, and led about for a few hours, daily and gradually increasing the draft, and greasing their necks occasionally, to prevent galling. When put to the cart or harrow with others already broken, *contrary to the usual practice*, they should be placed before, instead of behind them; by which arrangement it will be found that if frightened the old cattle will not let them run; but, if otherwise, they, by running against the older ones, may frighten them also.

In Kentucky they practise another mode of breaking steers, which is thus described;—Where the establishment is a large one, and there are some to be broken in, every year, the fixture and practice here recommended would seem to be eligible and judicious—"Get a strong post eight feet long by two thick; plant it three and a half feet in the ground, well rammed; round or level the top of the post, and leave a pin to it, or make a mortice and insert a strong two-inch pin of tough wood in it, perpendicularly at the top, six or eight inches long. Then get a tough sapling, twenty-five feet long; measure off at the small end of it the usual length of a yoke, and bore the holes for your bows. Then bore three holes, or more if you choose, four, eight, and twelve feet from the other end of the sapling, of the size of the pin in the top of the post, giving the shortest lever first; draw your steers up, let them be young or old, gentle or wild, it makes no difference; yoke them to the end of the pole; but instead of tying their tails together, if you wish to avoid bob-tailed oxen, tie their loins together with a good rope, wrap up their head halters, clear the front, and let them go; round and round they will go with a rush; drunk—drunker still they grow, until, groaning, down they drop. For a while they lie panting and looking wild; at length they leap as if suddenly frightened, rush round and round again, grow drunk and drop again. Leave them, they will repeat the experiment, until reeling, they will stop or stand. In a few hours you may lead them around by their halters. Uncouple them from the pole, or yoke them to your cart, and drive them where you please with safety." The preceding method is recommended with confidence from personal knowledge by Mr. William P. Hart, of Kentucky.

There is no point in the comparison between oxen and horses which more strongly illustrates the economy of ox-power than the difference in the *expense of gearing*.

For each horse employed on public roads, where it is in constant use, the harness costs, according to the best information, as has been seen, twenty dollars; being one hundred and twenty dollars for a team of six, leaving the swingle or whiffle-trees, as they constitute a part of the wagon, out of the question; and this harness is not expected to last more than six years; while for six oxen, the whole gearing, consisting of three yokes and two chains, would not cost more than twenty dollars, and would probably last twenty years.

A singular method of accustoming young animals to draw is practised in France; and, although it must be admitted that few nations have been more the slaves of routine and of old habits, or slower in the progress of improve-

ment in agricultural implements, yet the system they pursue in this instance, as here illustrated, looks and reads so plausibly as to appear worthy of trial, and to bespeak confidence in its efficacy. It is well known that nothing is more humbling to the wildest and most indomitable animal than the sufferings of *extreme hunger;* and among the French, in the very act of satisfying its cravings, they habituate young animals to the yoke and harness. For this purpose they attach them to the manger by means of a cord which runs through a ring, at the extremity of which a weight is attached, as represented at A, in the annexed Plate, so that the animal may, at pleasure, approach or recede from the manger. A collar is put on the animal with two cords fixed to a bar or swingletree, to which another cord is attached at B, which passes through the pulley at C, and to which is suspended a weight as at D, to be increased or diminished at pleasure. Things being thus arranged, fodder is put in the rack. The animal, when pressed with hunger, approaches his food, in doing which he raises the weight, and keeps it suspended as long as he continues to eat, and thus contracts the habit of drawing in a few days. He is free to relax his exertions, for whenever he recedes, the weight reposes on the ground.

"In many respects," says Mr. Gilman, "proud man must look up to the beast as his superior: man's reason is replete with error; but instinct, or the inference drawn by a brute, from certain sounds and motions, after having once learned their purport, is *infallible.* I have seen the best drilled soldier mistake, for the instant, advance arms for recover arms, but never saw a well-trained ox mistake *gee* for *haw*, or *haw* for *gee:* hence system is indispensable in the management of working cattle. He who would work them with ease and facility, should maintain a strict uniformity in his conduct towards them. They must have names; therefore, calves intended to be raised for working should be named while young, to which they become familiar by the time they are ready for the yoke. Any thing appropriate to their color, shape, &c., is proper; such as bright, broad, line, spark, back, star, turk, golden, &c."

"The buffalo breed of cattle, or those without horns, will not answer well for working, as horns are necessary in backing a cart, and in carrying it down hill. This may be obviated by having a plain harness with breeching fastened to the yoke of the oxen to the tongue, as is the practice in Pennsylvania. Oxen should never be changed in the yoke after having been broke; the near and off-ox should always remain as such; by changing them, they become confused, and all the benefit of their tuition is lost."

"A temporary change, however, can be made in one instance to advantage; this is when they hang off from each other, as they are apt to do in bad travelling, when they get fretted; they then cut each other's feet with their shoes; shifting them puts this out of their head for that time."

"There are, however, several ways in which oxen may be geared for work; they are willing to earn their bread any way; they have been tried and found to pull by a yoke on the neck, by a shaft lashed across the forehead, and traces to its ends; by traces fastened to the horns; by harness like horses; and they will pull by the tail. From these various modes, it is the husbandman's duty first to study the nature and convenience of the ox; secondly, economy and his own convenience, and then select that which embraces most of these desirable objects."

There are but two of these modes mentioned that can be adopted with any degree of satisfaction or success; these are the yoke and the harness. From the former being in general, not to say universal use, the inference is a natural one, that some inconvenience must attend the latter. The form of the ox is one objection to harness; his belly is so much wider than his shoulders, it is embraced so hard by the iron traces as to impede his wind, as well as to be injured by galling. The yoke, on the other hand, being of hard wood, appears to be an instrument that would gall, but I never knew any injury done by it. The neck of the bullock seems by nature fitted for the yoke; the skin, naturally thick, soon becomes so callous as not to be hurt by friction; it is there his strength lies, even to a proverb.

In point of economy, there is a wide disparity between the harness and yoke; the expense of the former to that of the latter, for eight years' wear, would be as ten to one, and the time of gearing and ungearing is as three to one; in other words, a yoke will cost only five dollars, which will average eight years' wear, and can be put to oxen in two minutes.

A yoke which is properly made for oxen of equal size and strength will have no particular end for the near or off-ox; but the bows being sometimes untrue, will fit to the neck better one particular way. This the nice teamster will observe, and always put them so. An ox can feel as sensibly as a man the pains of tight or unfitting accoutrements; but not being so fluently gifted, and being too noble and patient to shrink on that account from his task, it particularly behooves every driver (who cannot all day wear a key or penknife in the foot of his boot) to be vigilant that the tackle sits easy and free on his team.

When oxen are unequally matched as to strength, the strongest is apt to carry his end of the yoke several inches before the other; this makes the yoke uneasy to them, and is soon remedied by putting the staple of the yoke nearest to the end of the strong ox. It does not, however, always follow that the stronger ox carries the fore end of the yoke. It often occurs that an inequality of strength begets such ambition in the weaker ox as will ruin him by his overstraining himself for an even yoke. The driver should be attentive to this circumstance, (if it ever occurs with him,) and remedy it, as has been just pointed out.

It is unnecessary, in yoking well-tutored oxen, to lug the yoke round the yard after them, as they are easily called to that. I have often called the

ox I wanted from a drove of all sorts of cattle. Stand the yoke on one end; take out the off-ox's bow; steady the yoke with the left hand, and with the right hold up the bow towards the ox, and beckoning with it, call him by name to you; slip the bow under his neck; turn the yoke down upon it; enter it in the bow-holes, and put in the bow-pin; then take out the other bow, and lifting up the near end of the yoke with the left hand, with the bow in the right call the near-ox also by name, who will come and "bow his neck to the yoke," and is harnessed the same as his companion.

An ox-goad, to drive with, is made of hickory, or any tough wood, three and a half to four and a half feet long, as may suit the whim of the driver, about the size of a man's finger, with a prick or sharp point of iron in the end, projecting not more than a quarter of an inch. This is more cheap and simple, and has been found to answer much better than a whip, or a long green withe. The ludicrous practice of using the latter, and of having a driver on both sides of the team to keep them straight, or of fastening a rope to the horn of the near-ox for the same purpose, cannot be too soon exploded. Riding on oxen is a shameful, lazy practice, that should also be done away with. Oxen may, and ought to be so taught, that by speaking to them and making a kind of beckoning motion with the goad, they will come to; or, in other words, turn to the left without the trouble of an assistant on the off-side, or a rope to pull them round.

I would have one thing remembered in driving oxen, (which also applies to every species of servants;) I mean the impolitic habit of a uniform harsh deportment, and of keeping the goad constantly going over them; it is a needless tax upon the lungs and sinews; the oxen will not do so much work for it; and, what is worse, they become so callous from this perpetual rough discipline, that they cannot easily be brought to any extra exertion when it is indeed necessary.

The benefit of a calm management has been very apparent to me when I have been driving in company with these peevish geniuses; and coming to a steep hill, I would then speak sharp and determined to my team, and ply the goad pretty freely, if necessary. This treatment, so novel, would be fully appreciated; every one of them would pull as for his life, and the hill would be quickly surmounted; while the driver who has always been speaking harshly, and always been plying his goad, could not here make use of any new argument to stimulate his cattle to the exigence of the moment. The consequence was, he would often have to receive assistance from a team no stronger than his own. Drivers should acquaint themselves with the burden of their oxen, and never load them beyond it; it discourages and hurts them.

Because they are very strong, many unthinking taskmasters appear to believe them omnipotent. When they are properly taken care of, they are not apt to be sparing of their strength; they are sometimes profuse with it.

I have often been beset with difficulties when at work alone in the woods with a yoke or two of oxen, and have then thought I could perceive traits of reason in them; for, in proportion to my anxiety and exertions to extricate myself, have I seen their's spontaneously to increase.

That all cattle should be sheltered in cold and wet weather, is obvious to every person; but to those that work, it is indispensable; their health and strength depend upon it.

From the severity and duration of our winters at the northward, our barns are generally spacious, and calculated to hold as much as possible of our grain and hay. No doubt, however, but this is good economy in every climate in the United States; as the farmer loses as much in quantity and quality of his produce in a short time, by stacking out, as would build a barn.

Our old-fashioned barns, I believe, are not susceptible of much improvement. Those which cattle are wintered in are built a small distance from the house, on a rising ground, with a yard opened to, and descending a little towards the south, if such a spot be near; it being thereby warmer, kept cleaner, and the wash enriches the adjacent ground. The barn has two large doors opposite each other for the convenience of driving loads of grain and hay; on one or both sides of this thoroughfare is a stall for cattle, say ten feet wide and six and a half high, and running the whole width of the barn; so that if a barn were forty feet long, the stalls would take up ten feet on each end, and twenty would of course be the width of the thoroughfare; which latter being also used as the threshing-floor, is floored with two-inch plank, well joined.

The partition between this and the stalls is only three feet high, for the convenience of feeding cattle, whose crib joins the partition, and is thus made:—A piece of timber, the length of the stall, about four inches thick by eight wide, is laid down on edge, parallel with the partition, and two and a half feet from it; this makes a crib on the floor, being the most natural one that cattle can have to feed at. It is perfectly clean, as the stall-floors have a gradual descent of about three inches. Immediately over this timber is another smaller one of the same length, fixed to the joist above; in both of these timbers from end to end holes are bored at three feet distance, and smooth round stations or studs, three inches in diameter, are fixed therein; round each of these stations is bent a small hickory hank or hook, sufficiently loose to play up and down thereon; a wooden bow passing through this hoop, embraces the neck of the ox, who is thereby kept at his post, yet still has every rational liberty. He has room to eat his food, lie down or stand at his pleasure. (See drawings on page 359.) These stalls have small windows, four feet from the floor, and a convenient distance from each other, through which to throw the manure. Satisfactory experience of the safety and economy of this mode of housing cattle has made it universal in that quarter.

On tying up cattle for the night, respect should be had to mastery among them; the strongest should be put in first, and at the further end from the door, and so on, according as they hold dominion over each other, leaving the cows, yearlings, &c., next the door, in case of civil war among them.

It is interesting when "the curfew tolls the knell of parting day," and the farmer's boy opens his stall-door and gives a nod of invitation to his "leading characters," to see them forming a line of march, entering the door, and taking their places precisely according to rank, without martial music, word of command, or confusion.

The thorough-bred teamster never suffers himself to partake of his repast before his oxen have begun theirs. They require little else in winter but good wholesome hay and water; but when sufficient time cannot well be allowed them to dine on hay, then corn in the ear is the best thing that can be given them. Pumpkins are also very grateful to them, and being remarkably prolific, may be raised with little trouble. In winter, cattle are tied up and fed at about sunset; fed again at eight o'clock; again at daylight; then at sunrise they are ready for the labors of the day. This mode of feeding is considered preferable, being fresher in small quantities, eaten more freely, and less liable to get under their feet, and be wasted.

Carts being cheaper than wagons, and handier about the ordinary business of a farm, are therefore to be desired. Different kinds of bodies may be attached occasionally to one pair of wheels; an open one for hay, sheaves, &c., and a close one for fruit and vegetables. The naked wheels are handy to haul spars, poles, and all kinds of long timber on. In hitching a cart to the oxen, the tongue or spire thereof passes into the ring of the ox-yoke, as

far as the shoulder in the tongue will permit; an iron instrument called a *copes* pin, resembling the capital letter U, is put on the end of the tongue, embracing it above and below, and the copes pin is inserted through the end of the tongue and through the copes. This copes is for the purpose of hitching the second yoke of oxen to, when necessary. (See the annexed drawing.)

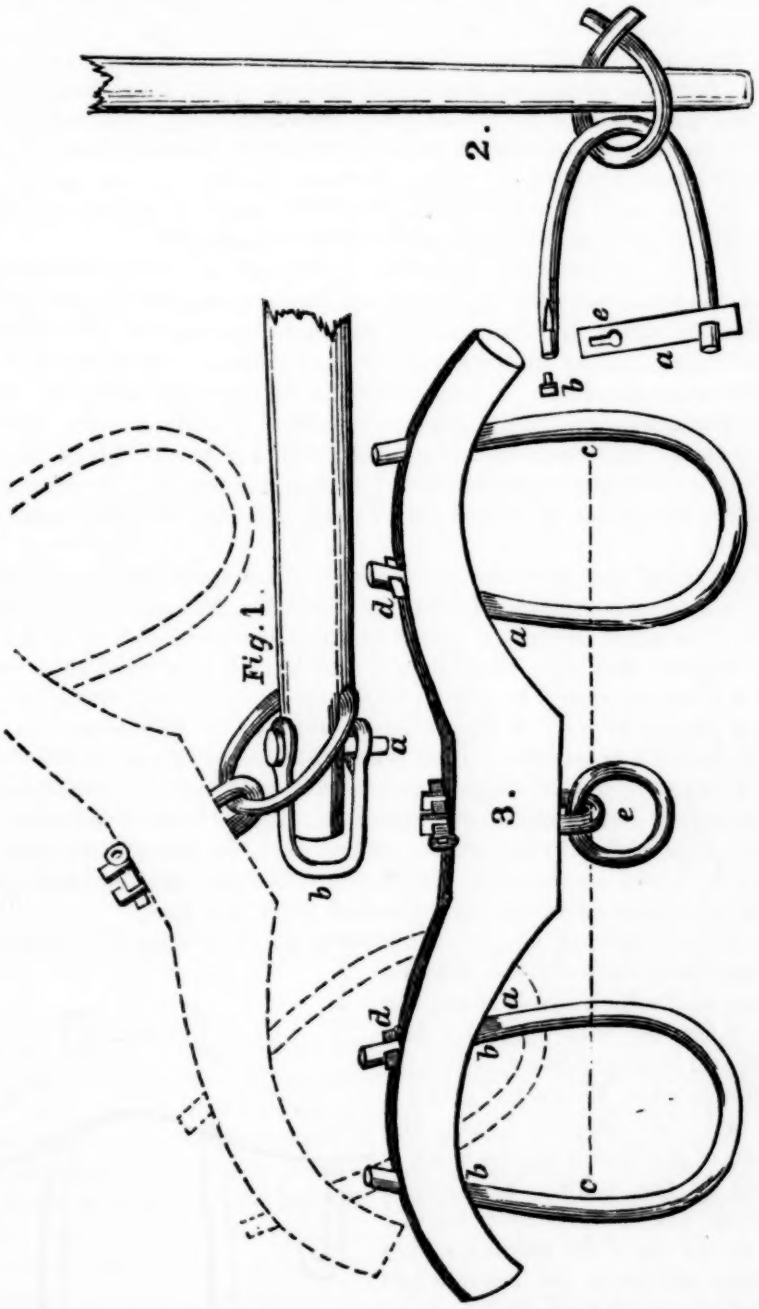


Fig. 1.

Wherever oxen and yokes are used, chains become indispensable; four of these, each ten feet long, with a hook in each end, or part of them with a ring in one end and a hook at the other, are enough for two or three yokes of oxen.

The drawings above are necessary for a better understanding of what has been said.

Fig. 1 represents a cart-tongue hitched to a yoke, as in the act of draw-

ing; *a* is the copes pin, which goes through the tongue, and by which the yoke draws; *b* is the copes by which the second pair is hitched, when necessary.

Fig. 2, a stanchion and bows, by which cattle are secured at their crib; *a*, the cap lies flat on the top of their neck; the end of the bow at *b* is sometimes like a button, and is put in the hole at *c*, and springs into its place.

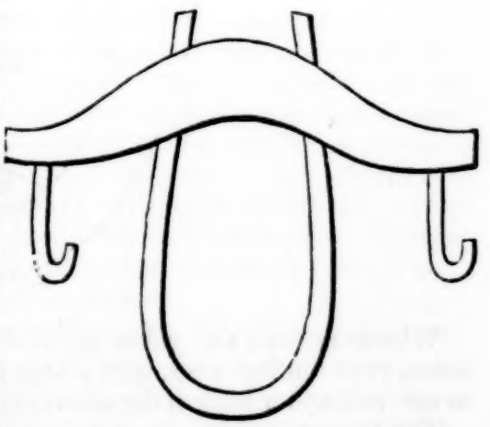
Fig. 3 is the model of a yoke for a middling sized pair of oxen. Whole length, three and a half feet; distance of bow-holes, *a* to *a*, twenty inches; from *b* to *b*, in the clear, six and a half inches. The bows being something of an oval form, and *c* to *c* being the greatest swell, and where the ox's shoulders come, the staple *e* should be in a direct line between, so that the strain will come right, in drawing: *d d* may be flat keys or round pins of wood; one in each bow is sufficient. The stuff of which the bows are made must be at least one and a half inches in diameter.

There is no good reason why the ox should not be worked singly; so might cows when not at the pail very well do the single ploughing, and haul light loads in carts; and it would be yet more economical and expedient to spay and work heifers under certain circumstances. In Spain and France it is a common practice. Every judicious farmer will endeavor to get all possible remuneration for the certain expense attendant upon the keeping of *every thing that consumes the produce of his land.* Even the dog that eats what would keep a pig, besides guarding his house, protecting his fields, and finding his game, is made by the calculating New England man to *churn his butter.*

It is observed that less food is necessary for spayed heifers to keep and fatten them than is required for the ox; and Mr. Marshall, in his rural economy of Yorkshire, remarks, that it is a fact well established in the practice of that district, that they work better, and have better wind than oxen.

It is a common thing to see a single ox in a cart at Norfolk in Virginia, among a people as little as any other observant of improvements going on in agricultural machinery. That whole States, even where oxen are used, should forego the use of single oxen, serves to show how proverbially slow is the change of habits among agriculturists. Large bulls of immense strength are often kept and fed through the entire year, for the sole purpose of their services for eight or ten cows, when they might haul immense quantities of wood and manure in vehicles adapted to the purpose.

For an ox working singly, some recommend a single harness with the collar reversed; but for the reasons he gives, and which are obvious, the single yoke recommended by Mr. Stabler, and here exhibited, is greatly to be preferred. When the collar is used, and the draught heavy, the pressure of the traces on the sides is obviated by the yoke. The length for a single yoke must be proportioned to the thickness of the animal, so that the traces will be as far apart when fastened to a small hook on the under side of each end as is required to prevent his sides from being chafed. The following will show the proper shape of the single yoke:—



It will be observed that by placing the hooks perpendicularly through the

ends of the yoke, the draught is applied precisely as in the double yoke, and the bow consequently keeps its proper place.

Mr. Stabler, a nice observer and a practical man, residing in a middle State, sets it down that a horse when at work must have at least three gallons of grain a day, and for six months in the year one hundred and twenty-five pounds of hay per week. Supposing him to be at work only two-thirds of his time, and during the remainder to be kept on hay or pasture alone, he must consume upwards of ninety bushels of grain, and two thousand eight hundred and seventy-five pounds of hay in a year, which latter is amply sufficient, with such pasture as the horse must have, (and some additional coarse food in the winter,) to keep the ox in prime order for work without the use of any grain. Thus it appears, that for every ox substituted for a horse, there are ninety bushels of grain saved in the year.

From data given, Mr. Stabler shows a saving on four oxen instead of four horses in twelve years, of *two thousand four hundred and fifty dollars*— and concludes his observations on the subject with this wholesome advice:—

"It cannot be too strongly urged upon those who are about embarking in agricultural pursuits as a means of securing a livelihood, (and who may be free from many of the prejudices entertained against oxen,) to make the experiment at least, and give the thing a *fair trial*, before they encumber themselves with that *moth*, a stock of farm-horses; in doing which, it will easily be seen they hazard nothing; for should any wish to abandon the plan after a sufficient trial, one summer's grass will enable them to obtain, in cash, an advance on the first cost of their cattle, if young and thrifty; and such are always to be had."

ITEMS FROM ENGLISH PAPERS.

Butter-making.—There is a paragraph in your paper headed "Butter making," in which the writer condemns the use of turnips for feeding cows, as giving the butter and cream a bad taste, and expresses his surprise that there should not be any method to prevent it. I occupied a farm of 500 acres, and kept a large dairy of cows, and never had the taste of Turnips in the butter, by applying hot water and steam, at different times, to the milk and cream, which entirely took away all flavor of the turnip. We generally made from 1*d.* to 2*d.* per lb. of our butter more than market price.

Flooring.—Mr. Drummond copied, about two years ago, a receipt for making a flooring; twenty-seven gallons of gas tar, three tons of sand, one bushel of lime, and upon trying this about a year afterwards, found it would not answer, but one of the workmen, by accident, mixing a much larger quantity of lime, it formed a most excellent flooring. The exact quantity of lime is not known. [Can any one furnish us with an experience on this subject.]

The Gapes.—A farmer's wife must take the bird on its back in her left hand, holding its beak open with the fingers of that hand; and with the right holding the end of a small quill feather properly trimmed and dipped in sweet oil, she must, watching her opportunity, slowly insert the feather end two inches into the windpipe of the unfortunate bird, and turn it once round and withdraw it. The bird will cough up the worms which occasion the disease.

TOTAL ACREAGE OF ENGLAND, AND ITS DIVISIONS.

As in the prosecution of agricultural and political comparisons and inquiries, it may often be desirable to know how much there is of different kinds of lands in different countries, and especially in that country from which we sprung, and to which we are, if we did but know it, yet in many respects absolutely subservient—we think it well to give, for the sake of remembrance and reference, the following estimate, from a writer who is considered among the best of authorities.

In his analysis of the "occupations of the people," Spackman says, p. 35:

	Statute acres.
Amount of arable lands and gardens	10,252,800
Meadows, pastures and marshes	15,379,200
Wastes capable of improvement	3,454,000
Incapable of improvement	3,256,400
Total acreage of England	32,342,400

According to Darby, there are in

	Square miles.	*Population.*	*To the sq. m.*
Eastern Virginia	8,875	262,524	30
Middle Virginia	24,297	655,266	26
Western Virginia	28,130	147,514	5
Total	61,302	1,065,304	
Or of *acres*	39,233,280		

Had Virginia been all along governed by the policy which encourages combination, and thus tends to the concentration of population, which prevails in Connecticut and Rhode Island—a policy which mingles in harmonious concert the whistle of the ploughman and the whistle of the railroad car, with the sound of the shuttle in the loom and the hammer on the anvil—what would have been her population at this day of our Lord 1848?

WOOL AND WOOLLENS,

EXPORTED FROM GREAT BRITAIN TO FOREIGN COUNTRIES—INCLUDING THE UNITED STATES.—FARMERS, LOOK AT THIS.

Official returns, dated 18th July last, have been published, showing that during the last two years the export of British sheep and lambs' wool from Great Britain in 1846 and 1847, to thirty-one different countries, was, in 1846, 5,851,888—in 1847, 5,550,680.

The largest quantity was in 1847 to France, the next to Belgium, the next to Holland, and the *fourth* to the *United States*, being 29,488; but of British woollen and worsted *yarn*, the whole amount was, in 1846, 8,630,608—in 1847, 10,065,231. Here again the United States was the sixth on the list of *favored* nations, having received from good mother Britain, of whom we have *declared* ourselves "*independent!*" 179,264, every pound of which ought to have been spun in our own country, by men who should have eaten our own beef, and mutton, and pork, and bread, and cheese, and potatoes, and turnips. How long will John Bull continue to laugh in his sleeve at the boasted sagacity of the Yankee, who fancies himself free, and who every fourth of July joins hands to dance around his liberty poles, singing—"*Let independence be our boast?*" Alas, how much this world is governed by *humbuggery*, from the great National Wittenagemote down to what? why down to the A——— Institute!

THE COUNTY THAT CAN'T RAISE AN AGRICULTURAL SOCIETY.

It is published, not "in Gath," but *confidentially* in the "*St. Mary's Beacon*," that an attempt lately made in that county, in Maryland, to get up an Agricultural Society, proved an utter failure. One might suppose from the number of gentlemen appointed there, to attend the Agricultural Convention in Baltimore, in October last, that every other man in that county was an active member of such an association. Quite sure we are, that a club composed of the persons nominated on that occasion, would most advantageously compare in abilities and experience with some who, in the north, are so systematically puffed up, as to loom largely in—the papers.

But where farmers lack the energy and spirit to associate for the benefit of their profession, may it not be suspected that there the loom and the anvil are kept at a distance from the plough and the harrow? How is that fact in old St. Mary's—surrounded, intersected, and indented as is no other county in the world, by magnificent, and bold, and beautiful bays, and rivers, and harbors? Are they all planters and farmers, with no men and women at other trades, such as are to be found in all sorts of occupations, in all parts of New England, ready on the spot to consume all the milk and butter, the potatoes, and parsnips, and apples, and pears, that can be produced, and all helping to build up banks, and factories, and railroads—all busy making ox bows, and ox yokes, and rakes, and pitchforks, and axes, and axe-handles, and planes, and shoes, and shirts, and tubs, and buckets, with which to pay, and a little overpay, the farmer and the planter of Maryland and Virginia, and the Carolinas, for their corn, their wheat, and their cotton; all of which are made and sold by the bushel and the pound, demanding laborious and costly culture of large surface, and therefore forbidding concentration, and those improvements of all sorts, that can only be realized where concentration takes place? When that does take place, the farmer gets a market for bulky and valuable commodities of a perishable nature, sure of a sale on the land or within the smoke of his chimney—hence the ever-increasing productiveness and value of land in Delaware, and in New England. When deconcentration takes place, things of little value, such as will bear transportation, can be made; and hence dispersion and impoverishment. An acre of land that will bring thirty bushels of wheat, worth thirty dollars, will bring five hundred of potatoes, worth two hundred and fifty dollars. Is it under a policy and influences like these, which prevent the approximation of the plough, the loom, and the anvil, that good old St. Mary's, the first spot in the state settled and consecrated to liberty and toleration, seems to have been paralyzed in her growth, increasing only *three hundred in ten years!* while abounding in calcareous and other rich fertilizing substances; all, in fact, that need be desired, to increase her agricultural resources, lacking only the customers, "by the side of the agriculturist," to buy the products of agriculture? Does St. Mary's manufacture her own wool—does she tan and make up her own leather? What does she manufacture for sale, except wheat, and corn, and oats, and tobacco, that are carried away beyond her limits? How much of what she gets out of the ground, and how much of all that she sells, is sold *within her borders*, and its refuse returned upon the land? In New England, every thing that comes out of the ground is sold within the county and the township, and yet the consumers, like young and hungry birds, with open mouths, cry for ever, more—more—and if one farmer does not get the refuse of his own land, another does. But where the consumer is

at a distance from the producer, is it not "always taking out of the meal-tub, and never putting in?" Will the Beacon cast us some light on this subject, and tell us how it is that with such a munificent array of nature's bounties, the good old lady should, in point of numbers, be standing still, almost at the bottom of the list, in a noble state of which the historian has already recorded—"The increase of her population, for the last forty years, has been *nearly equal to one per cent.!*" For love of the state that bore us, we pray again—"give us but light."

THE OCTOBER FAIR IN PRINCE GEORGE'S.

It was truly gratifying to see, in the reliable "Marlbro' Gazette," such a good account of the late exhibition. It says:

"Those who visited the Prince George's Agricultural Society in former years, must have noticed the gradual improvement in the various departments—and in every thing exhibited at its late meeting there was displayed more perfection than on any previous occasion. The contributions of the ladies were both useful and beautiful. The display of fruits, flowers and vegetables, excelled the rich collections of former years. The stock yard was well filled with superior animals, affording ample proof that the attention bestowed on raising improved animals has more than compensated for the care and expense. We cannot do justice to the fine cattle exhibited—and must content ourselves with referring to the reports of the various committees which will be published next week. A most interesting feature of this branch was the competition for the 'Calvert Premium.' It will be recollected that the liberal and zealous friend of agriculture, C. B. Calvert, last year offered, through the columns of the Gazette, to give the male calves of his celebrated Durham stock, free of charge, to such gentlemen as would oblige themselves to exhibit them for the premium of the Society, annually for three years. Eleven gentlemen availed themselves of the offer, and the committee who passed upon the calves, speak in the highest terms of their appearance. They have made an interesting report on the subject."

Truly, there *is* a great difference between giving away improved short-horn calves, and selling them, as in England for the last forty years, at from fifty to one hundred guineas. It is well that *something* can prompt gentlemen of ample means to take measures for the improvement of their stock; but after all, the question arises, how far is it expedient, with a view even to general improvement, to *give* away the means of accomplishing it, unless it be to men of spirit unable to buy?

In the general way, that is not most valued which may be had, even without the trouble of asking; and when those who are able to buy wait to have a thing given to them, to whom can they expect to sell? Will not the next generation wait not only to have the best things given them, but sent them in the bargain, with a polite note entreating them to accept? By-the-by, though we have read with lively pleasure the account of the show, we have looked in vain for any indication of a desire to inquire into the *laws of the State that bear upon agriculture.* Whether, for instance, something might not be done to enable the planters and farmers of Prince George's, to avail themselves of their unemployed means of raising as many more sheep as would add fifty thousand dollars to the income of the county, without an additional outlay on that amount of one per cent.? Are there not streams enough in Prince George's to manufacture all the cloth that is used in the county, and might not the county supply the wool fine enough for all purposes, and the vegetables and corn, and fruit and meat for the operatives employed in its manufacture, without intrenching on their present income from other sources? Why for ever persist in putting their trust so exclusively in tobacco? Suppose even that the duty was to be reduced in England, and the consumption quadrupled or quintupled: have we not in the west land enough and labor enough that can in no way be

so profitably employed as in producing tobacco at four dollars a hundred? And is it not, therefore, morally certain, that the supply will for ever tread closely on the heels of demand, and so keep down the price? Let, then, the planter and farmer of Maryland and Virginia study how—by what action of the government—those who manufacture iron and cloth for us abroad shall find it their interest, and be tempted to come, and, while they are manufacturing for us here, eat the cabbages, and the turnips, and potatoes, and apples, and milk, and butter, and veal, and mutton, that might be made in Prince George's, with half the labor and cost that they are made in New England. Then he would sell *tons*, where now he sells pounds weight of wheat and tobacco.

We see in these proceedings at Marlbro', conducted by gentlemen of acknowledged and superior intelligence, no attempt to agitate the question of the *fence laws*, and the *inspection laws* of the state—though the fencing in that very county has cost more than the land would sell for. When farmers meet, one would suppose it would be to inquire and discuss, as merchants and manufacturers do, the bearing of the laws, and policy of the government on their particular pursuits; but, alas! for instruction in all that, they surrender the privilege of thought and inquiry to old field *party leaders*, whose orders they implicitly obey. The whole country may be compared to a great pyramid, the base of which, broad and strong enough to hold all the rotten materials above, is composed of the substantial farmers and planters of the country. The next tier above consists of the seekers after numerous small offices, for which they rely on the influence of the next tier above them again, composed of a smaller number, who aspire to something a little higher—state legislators, &c., who, in their turn, are the creatures of lawyers without briefs, and doctors without patients, looking for seats in Congress, rising up at last to an individual sitting in a great palace, who holds the purse-strings—who constitutes the apex of the political pyramid, and who saves, to all below him, the trouble of thinking for themselves; and in regard to whom it sometimes happens that still the wonder grows that one small head should carry all he knows. Such is the system under which the farmer and the planter allows himself to be governed, without any attempt at individual inquiry and independent action. Socie ties seem to be organized, not to inquire into the political economy and con dition of the landed interest, but to give away, for large calves and fat sheep as much money as they can collect—while those in whose names and for whose benefit they associate, continue to pay **$15,000,000** ***a year for military establishments and schools.***

Foot-Rot in Sheep.—In answer to your correspondent respecting the foot disease at present in sheep, I beg to inform him that I have had some very bad, and I think I have cured them by the following plan, (at least they are nearly well,) and I only operated on them about ten days ago. I cut off all the hoof that required it; I then washed their feet well in very strong salt brine; after that a man rubbed in some salt, and did not care if they bled a little. I am quite satisfied this has answered, but I continue to examine them and rub more salt if they appear to require it, first washing the feet well in brine.—*A Subscriber.*

Lime a means of preventing Plant Wounds from Bleeding.—This year, I saved some fine pelargoniums from bleeding to death, after being cut down, by dusting slaked lime over the wound. It might have the effect of preserving other plants under similar circumstances.—*Falcon.*

WOOL GROWING,

A GREAT AND MUCH NEGLECTED RESOURCE FOR AMERICAN FARMERS.

In the firm belief that under a policy that should force the manufacturer to come with his light and inexpensive portable machinery to the wool grower, and the cotton grower, with their expensive unportable machines of production, instead of sending the wool and the cotton to the looms; or, what is the same thing, buying the cloths of other countries; in the firm belief that under such a protective and common sense policy, the growing of wool might be infinitely extended, and with profit, in the United States, we shall continue to bestow particular attention on that branch of industry. As the best means of promoting the best understanding of the subject, we have begun by offering the best book that in our judgment has yet appeared to enlighten the inquiring farmer in all the branches of sheep industry. We find the following in the Vermont State Agriculturist. It evidently comes from the pen of a writer practically familiar with what he undertakes to illustrate.

All kinds of wool are worked up in manufacturing. One mill may use one kind, and another a different one, the differences being based on the intended quality of the fabric, and on the kind of machinery used. Manufacturers, therefore, buy their wool with reference to the object in view. The carpet-maker does not want the fine wool necessary for broadcloth, nor can the latter be made from the coarse South American article employed by the former. The price of wool is always graduated according to its quality and the price of the intended fabric; and manufacturers can generally procure in some part of the country the article they need. They are not, therefore, confined to any particular section, and, consequently, it is of no consequence to them what kind of wool the farmers in their immediate neighborhood produce, as they can often buy cheaper at a distant market. The charge of *interested views*, therefore, which I have so often encountered, is without foundation.

But now, what kind of wool is it most profitable for our farmers to raise? Coarse wool can be produced at the West, very much cheaper than in Vermont. Coarse wool can be imported from South America for much less than it can be raised *in Vermont*. Most of our farmers keep small flocks, and can, therefore, pay them all necessary attention. Our climate is severe, and the expense of keeping sheep is a matter of considerable consequence.* ***It is, therefore, a matter of great moment to our farmers, whether they get fifty cents or a dollar per head more for their wool than is now generally obtained.*** How can this be done? Plainly by raising fine wool. I am fully of the opinion that fine Saxony sheep of the right kind do as well in our climate as any others, and will be found much more profitable. To prove this, one has only to look at two flocks now kept within six miles of Burlington, both of which have been kept at least two years in their present situations. One of these is Saxon, and the other Merino. I am bold to say that no one, after a careful examination of the two flocks, and after witnessing the effects of wintering upon them, can decide in favor of the Merinos. This examination will prove the best argument, and can be accomplished with but very little trouble. As regards the *profit*, the following figures will best exhibit *that*.

The flock of Messrs. Perkins & Brown, the wool of which is now at the Burlington Mill, averages two pounds to the fleece, and is considered cheap at 75 cents per pound, or $1.50 per head. The general average of Vermont wools, according to the best authorities, is about 2½ pounds—say

* The estimate by those with whom we have conversed, is from $1.10 to $1.15 per head, as the market price of the food consumed in winter.—*Edits. P. L. & A.*

three, at from 28 to 30 cents—say 30 cents per pound. This will give a balance in favor of the fine sheep, of 60 cents per head.

The wool of Messrs. Perkins & Brown may be considered light, but that is partly accounted for by its *condition*. Their wool will shrink but 28 per cent., when the Vermont wools will generally shrink from 40 to 42 per cent., and sometimes as high as 50 per cent. Not a tag, nor a particle of dirt of any kind is to be found among this wool; and it would add to the value of ordinary wools were they offered for sale in similar condition.

It is often supposed that fine wools are so much lighter than coarse, that the difference in price is balanced by the deficit in quantity. But this is an error. The finest wool in the world, that from which Cashmere shawls are made, is valued on the spot at $1 per pound—the yield being about two pounds, or $2 per head.* The common Vermont wools we have already estimated at 90 cents per head, although the yield in weight is one-third greater. The difference between fine Saxons and Merinos is not so great as that, but it will be sufficient to induce the culture of fine wools in preference to those of a coarser quality. C.

Burlington Mills, April 21, 1848.†

EFFECTS OF DEPENDENCE ON FOREIGN MARKETS.

We take the following passage from a leading free-trade paper,‡ and beg to commend it to the careful perusal of our agricultural readers:

"It is extraordinary, that amidst all this state of things, all the difficulties with which we are surrounded, there is nothing within ourselves calculated to cause them, or give them any permanence. It is our intimate connection, in all financial and mercantile matters, with the Old World, that is destroying our prosperity, and inflicting upon us evils which we shall not recover from very soon. Our domestic affairs have, for a long time, been in a healthy condition; our productions have been unusually abundant; and all the elements of wealth have been properly husbanded; but the state of affairs in Europe has tended more to depress prices for our products than any thing that has transpired within our own limits. Whatever affects the consumption of our products abroad, depreciates prices for all that we have on hand. Our products and manufactures are valued at about $2,000,000,000, of which only about $100,000,000, or one-twentieth part, is exported; and whatever affects the value of the portion exported, affects the value of the nineteen-twentieths reserved for domestic consumption. We are thus at the mercy of foreign countries. If any thing of a political nature transpires abroad, calculated to unsettle the public mind and destroy confidence, we feel it through its influence upon prices for our products. If a financial revulsion spreads over the whole or any part of Europe, the markets for our products are injured or destroyed, and immense losses fall upon our merchants and producers. We have to bear the brunt of every political, financial, or commercial disaster, which occurs in any and every part of the world. The raw material, for the most important branch of manufacturing, is produced in this country, and we are, therefore, dependent upon those countries which consume this staple so largely. If markets for manufactured goods are injured by any revulsion or revolution, the manufacturer can stop his machinery, discharge his operatives, and for a time remain inactive, with the loss merely of the interest on his capital; and when he resumes, the raw material will be found so much depreciated that moderate profits are realized, without any

* Ure's Dictionary, article Cachemere.

† But if all were to turn to the growing of *fine* wool, where would come the wool for carpets, blankets, and coarse clothing? Still, where land is high, farms small, and keep expensive, doubtless the fine wool is most profitable, but the course of things ought, and we apprehend will be, that the pastures, and the manufactories for *coarse* wool, and woollens, and cotton as well, will *finally be in the South*—leaving enough for the more ingenious and pains-taking Yankee to do with his more perfect machinery, to manufacture the *finer fabrics* for our own country and consumption, and ultimately for foreign markets; after the world shall have succeeded in breaking down its colonial vassalage to England, and established real *free trade*.—*Ed. P. L. & A.*

‡ The New York Herald.

material improvement in prices for manufactured goods. The manufacturer is thus more favorably situated than the producer. The first can raise prices for his fabrics by stopping the supply, while the latter has no such alternative—he must keep on producing, no matter what the price; he cannot discharge his hands and let his land lay fallow, neither can he turn his attention exclusively to the cultivation of other crops; cotton is his staple product, and his capital is all invested in facilities for its production. The manufacturer is only compelled to stop working his mills, until prices for the raw material become sufficiently depreciated to enable him to start again. *Not so with the producer. If the foreign demand becomes reduced by difficulties of a foreign character, and prices rapidly fall off, he cannot stop the growth of his crop, and confine it at that stage, until prices recover and become remunerative; it must be picked at maturity, and a market found at some price.* The producer is, therefore, at the mercy of the manufacturer; and, as such a large per cent. of the crop is consumed abroad, we must not look for, or expect, any immediate change in the relative position of the two parties.

"Great Britain is connected with every country on the face of the earth, of any commercial importance; and, consequently, through that country, we are nearly as intimately interwoven with the commercial operations of the world. Great Britain is such a large consumer of our staple products, that we are deeply interested in her prosperity; and it is, therefore, highly important to us, that every thing tending to her progress and advancement becomes settled upon a sound and healthy basis. We have long deprecated the position we occupy relative to that country. It is humiliating and decidedly injurious to our most vital interests. With greater resources, with more elements of wealth within our limits than any other nation in existence, we are absolutely dependent upon the preservation of peace in even the smallest power in Europe. We are rapidly extricating ourselves from this thraldom, but until we are completely removed from the influence of foreign affairs on our internal commerce, we shall periodically experience all the fluctuations in prices, &c., which have, so far, in our history, marked our progress."

It is our intimate connection with the Old World that is destroying our prosperity. Our domestic affairs *were* in a prosperous condition, and they were becoming daily more prosperous under the system that existed prior to 1847—that system which had for its object the bringing together of the plough, the loom, and the anvil. The manufacture of iron having grown in four years from 350,000 to 700,000 tons, and the production of coal from 1,000,000 to 3,000,000 of tons, these two articles alone had provided for the farmers a market for their products almost equal to the largest amount ever exported, and immense numbers of prosperous spinners and weavers were enabled to consume largely of the products of the plough, while engaged in fashioning other of its products, to the vast advantage of the owners of land. In an evil hour, the farmers and planters determined upon a new course of policy, the effect of which has been to close the furnaces, the rolling-mills, the woollen-mills, and the cotton-mills of the Union, and to put a stop to the building of new ones. The necessary consequence of this has been, and must continue to be, that the men who should be working mines and furnaces, and cotton and woollen mills, and those who should be employed in building new ones, are compelled to fly to the west, there to become producers of food, because they are not permitted to follow their own inclination, and remain at the East, consumers of food.

Let but the whole people of the Union adopt it as their fixed and determined policy that the loom and the anvil *shall* come and take their place by the side of the plough and the harrow, and ten years will not elapse before the necessity for seeking in foreign lands a market for our surplus food will be at an end. The owners of ploughs and harrows will then grow rich, for they will then be enabled to return to the land the refuse of the products of the land, and their crops will yearly increase in quantity: whereas, let them continue the present course of policy, and they will become poor, because they will with every year waste more labor and manure on the roads—with every one they will more and more exhaust the land—and with every one they will be more and more compelled to fly to the West, there to seek new lands to be again exhausted.

THE MARYLAND PRIZE ESSAYS.

TO SHOW HOW BEST TO RENOVATE WORN-OUT LANDS.

We have read these essays, as far as published, with the attention due to their authors and to the subject—our own apprehension is that the exhaustion and desertion of lands like those in Maryland, possessing so many advantages and resources, geographical and natural, is to be attributed, not to any general ignorance of the proper rotation of crops, or of the indispensable application of manures—nor even so much to ignorance of the general principles of agriculture, such as the necessity for thorough draining and thorough tilth. All these things are generally pretty well understood. In our belief the root of the evil lies deeper. It lies, if farmers would take the trouble, and learn to trace it, in defective or mischievous legislation. It lies in the encouragement given to foreigners to keep their manufactories abroad, instead of forcing them to come with their capital and their machinery here. It lies in enabling them to ship to this country, in the shape of manufactures, cloth, iron, &c., the *food* out of which these articles are made, and which they as much represent in our country, as if the potatoes, and the cabbages, and the flour consumed in making them, were imported directly to the United States. There is not a yard of cloth, or a ton of iron, or any other thing essential to national independence, for which the water-power, and the iron and coal, and other materials might not be found along the Potomac from Cumberland to Georgetown, and elsewhere in our own country.

The very articles, and the only articles that can be cultivated in our own country, that will bear transportation to markets so distant as markets must always be where the consumer is so distant from the producer, are of a nature to exhaust the land and leave the landholder without the means to improve it—exposing him to the necessity of going to the West, where cheap land may be had with little capital, and where he may be sure at least of bread for his family.

There is one fact intimated in Mr. Stabler's essay, which is probably not generally known, and in that proportion new to his readers, where he states that land which had before been insensible to the action of plaster of Paris, when raised by clover, or otherwise, to a certain degree of fertility, becomes alive to the influence of that cheapest of all fertilizers, where it will act at all; and this, like other facts and considerations that might be adduced, would seem to show, that its action is not due to its *attraction of fertilizing powers from the atmosphere.* Hence it is, that we are left, so far as we are aware, still in the dark as to the secret of its *modus operandi.* It seems to be one of her hidden arcana, which Nature has so far succeeded in covering up from the persevering scrutiny of the man of science. If in this we are mistaken, we shall be among the first to rejoice at the exposure of our ignorance of what is deemed a desideratum in agricultural inquiry, for, as we trust, we have not yet to learn, that the first step in the pursuit of knowledge is to feel our own want of it.

If Colonel Capron's opening suggestion, of the importance which ought to be attached to the increase of money capital, in proportion to that which exists in the land, be not altogether new, as it is not, he has yet rendered service by the forcible reproduction of arguments too rarely insisted on and too little attended to. There is a land mania, that prompts men to go for quantity more than quality. Still the great question is, *how Maryland and*

Virginia farmers are to command the money capital necessary to give activity to their other resources? and here we respectfully think the means suggested by the Colonel will fall short of, and prove inadequate to the end. He recommends the sale of a part to raise means for improving the residue; but, as we have more than once inquired, where all are sellers, who is to buy? This difficulty being overcome, (and some money is assuredly necessary to begin with, if a man is to realize his object within an ordinary lifetime,) and all which follows in this admirable essay makes the way clear to the renovation of worn-out lands and dilapidated fortunes. It is this, however, this very difficulty, which, to our apprehension, presents the gordian-knot—would that, for the sake of the good old States above-named, we had the sword of Alexander to cut it. Look at the solid columns of advertisements of "*Lands for sale*" in the Virginia papers; and if we don't see the same signs of embarrassment in regions nearer to the Colonel, we fear it is not that they do not exist. How much of the land in his own county would it require, if peremptorily brought under the hammer, to pay the debts of the county? and what is the prospect of relief?

That *something* presses like an incubus on the bosom of old Maryland there can be no doubt. What is it? And must not that something be removed, before her poor lands can be made rich, and therefore does not the answer to this problem lie at the bottom of this whole inquiry? If in the midst of a field known to possess in a high degree the usual elements of fertility, where all around looks rich and rank, promising an abundant yield, one spot becomes sickly and refuses to grow; don't the farmer know that there is something wrong, and looks, expecting to find in the soil, at that spot, superabundant moisture, or some poisonous quality working at the root of his grain? What then is the poison that checks the growth of the population, wealth, and power of States like Maryland and Virginia and the Carolinas, while all their sisters are growing apace? States, which, were it not impious to say so, one might think had been created by Providence in "a moment of enthusiasm;" and yet from which the people are constantly moving off! Look at little Delaware! Lands everywhere improving—rising within our remembrance from 6 to 25 bushels of wheat to the acre, and from $20 to $100 in price.

Look at the county referred to! unexcelled in natural fertility—unequalled in the ease with which her soil may be cultivated and recuperated—yet what do we behold in respect of her condition as evinced by her statistics? going in the ten years previous to the last census from 20,216 down to 19,539! Look again at the working of the system (and penetrate the secret if you can) under which the agriculture of Maryland is *laboring;* and we find that with advantages unsurpassed, if equalled—rich lands—easy navigation—water-power—timber—lime—coal, and iron—delightful climate—open to the ocean at all seasons—nearest to the great West—and if not pregnant of great men, to develope her resources, never too proud to go to her neighbors on either side in search of them; and, after all, what do we witness? Look again at the census. In 1830, 446,913 population. In 1840, 469,232—increase 22,319—but where? Was it in the counties? Do you find any more people there, or as many as fifty years ago, working at the loom and the anvil, calling for the products of the plough and the harrow, that the produce of the land may be consumed upon, or its refuse go back upon the land? Not a word of it!—on the contrary, every thing they make for sale goes into *one great central reservoir*—and the refuse, after consumption, upon the gardens and garden-farms around Baltimore, Philadelphia, and New York. Thus of the increase of 22,319 inhabitants in the whole State, in ten

years prior to the last census, no less than 21,688 occurred in the city of Baltimore! leaving 631 for the 19 counties! So much for farmers and planters wasting their substance in the cost of *transportation and exchange*, yielding to the mere go-between exchanger what ought to be, all or nearly all, divided between the producer and the consumer—as would be the case if the fashioners of foreign goods were forced to come and settle down by the side of the agriculturist in our own country, to buy of him to whom he sells —for it cannot be denied, that every ton of coal, and every ton of iron, and every bale of goods that we buy from abroad, represents, and consumes, in its production, a certain and a large amount (the calculation is $25 worth for each ton of bar iron) of the produce of the plough.

Yet of British iron alone, we imported in three days of last month 26,114 tons, at a single port; enough to have employed all the iron-works of Pennsylvania for a week, and tantamount to the importation from England in that article alone, in three days, of $652,850 of agricultural and horticultural produce!—the only difference being that, instead of wheat and potatoes being sent, the British operative consumed them on the spot, kept the manure and the profits of the manufacturer at home, and exported to us the wheat and the potatoes in the shape of iron. We have elsewhere shown, moreover, beyond contradiction, how much more there is of coal and of iron consumed in our country, when they are produced in our country, than when imported, even at a nominally less price.

This is not the way they carry on the war in New England, where the loom, and the anvil, the lapstone and the (tailor's) goose, are in sight of every farmer. There the farmer sells his milk and his potatoes to the man from whom he buys, or to him who makes in his own neighborhood his coat and his shoes, his hats and his harness, his axes, rakes, scythes and ploughs. He at the plough in Rhode Island—in Connecticut—in Massachusetts, can scarcely imagine any thing that is really needful, which is not manufactured within an hour's reach of him; and if there you don't find the country filled with great men and stump orators exuberantly eloquent, you find all exempt from debt—well dressed, active, lively, and going ahead: and yet, strange to say, there are banks, and factories, and railroads, all over the country! There are everywhere customers alongside of the producers—as Mr. Jefferson recommended; the manufacturer has taken his place alongside of the agriculturist; and where there is combination and facility of union of small means, for general benefit, there will there be schools and churches. The young men will get wives and the young women husbands, obeying the great injunction of God and the first law of Nature, to "increase and multiply," offering the highest premium and assurance for the "renovation of worn-out land," for after all it is "*population that makes the food come from the rich soils.*"

If we don't give place to Colonel Capron's essay entire, it is because we have not room for it in this number,—neither is it possible to publish the half of the valuable suggestions we meet with in agricultural addresses. There is in the one before us specification and exactness of detail, in the way of outlay and income, which have not been given in his previous essays —and which, as a mere work of example, is as salutary as such accounts are rare, in that region. It happily exemplifies what deserves to be transferred from his essay, as a copy into every school-book in the State for farmers' sons, in place of—"command you may, your mind from play," which is not altogether so true as that "farm accounts are absolutely necessary to carry out any system." The last thing for which we could make any pretensions would be capacity to analyze his tabular statements—otherwise we may re-

turn to this essay hereafter, making such notes, amplifying and critical, as may seem to be appropriate. After all, the secret of his success in the simultaneous increase of his crops and improvement of his land, may, we apprehend, be found to consist chiefly in these, his own words: "All vegetable productions have been consumed upon the place, and all the wheat, &c., have been sold and converted in other feed and consumed by the teams and other stock."

Finally, might it not aid the distant reader, (unenlightened by the local knowledge of those residing in Maryland,) if informed of the number of the manufacturing population residing around a water-power, in the heart of Colonel Capron's agricultural operations, and how far the railroad passing contiguously along its border, if not through it, communicating equidistantly with the capital of the Union and the commercial emporium of Maryland, may have, notwithstanding the fulness and candor of his accounts, yielded him facilities and advantages not yet altogether apparent, and which may serve to take his case very much out of the ordinary category of *worn-out farms of Maryland?* To revert again to the subject of the money capital needed for farming—Colonel Capron knows that in New England, where the anti-bank mania has never taken root, any small farmer of industrious habits and good character can borrow the means at a neighboring bank, for putting up the requisite improvements and for buying manure; but certain and beyond peradventure as he has shown to be the results of bought manure, judiciously applied, how is the small farmer on worn-out lands in Maryland to get the means to buy even lime enough—one thousand bushels—to manure ten acres? Where is the bank in Maryland as in New England, belonging to and under the management of industrious manufacturers, mechanics and shop-keepers, and sympathizing middling and small farmers like himself! We ask where, and echo answers, *where.* No! the utmost "facility," so called, the farmer on worn-out land, no matter how industrious, can get is, a partial advance from his commission merchant, in Baltimore, (for even he must be within the reach of a bank-runner and a notary,) until he can send forward the little crop he *has* to sell. Let him go to one of the Baltimore banks, however sympathizing, in its title, with the "farmer's" and the "planter's" concerns, and he must first find "town endorsers," and then get "*accommodation!*" for sixty, or it may be, a great favor which he is made to *feel*—sixty days and *one renewal!* Yet his lime don't begin to tell under a year! If he travel over bad roads, or communicate by a twice a-week mail with the Farmer's Bank—the Farmer's Bank, mind you—at Annapolis, why even then he is told—"give us an acceptance on a good house in Baltimore."

For all this we are not blaming the banks. They have only fallen into the course of proceeding which might have been foreseen when they were chartered. We are only stating the case *as it is.* Such are, it cannot be denied, the sort of facilities, quoth! which it has been the wisdom of Maryland legislation, enacted by the Representatives of the landed interest, to throw in the way of the industrious owners of "worn-out lands" in Maryland! facilities under which the people of the country have become more and more embarrassed, and their numbers diminished—their young people, (the few they breed,) going in search of facilities, either into the great cities, there to swell the number of those who live as mere exchangers between the plough and the loom; or—they go away to the West, there to swell, by transportation to the sea-board, the products of the ploughs they leave behind them, at work on the worn-out lands that gave them birth.

GENERAL TILGHMAN'S ADDRESS.

We have but this moment, when scarcely space for a line is left us, received General Tench Tilghman's address at the Prince George's exhibition. Its language, like its author, is easy and graceful; but still we respectfully apprehend that there are obstacles to the general improvement of Maryland agriculture, which have eluded his penetration, wide and searching as it has been. If, however, those who have large farms, much beyond their means to bring them into productive activity, according to good systems of husbandry, would, or could, cut off, here and there, small farms, and put on them the necessary accommodations for tenants, and could and would "tenant out" such portions, under improving leases, there would doubtless be an uprising of the country. In place of the disorder and decay which he so faithfully portrays, a general melioration and thriving aspect would ensue—but the question occurs again—whence would come the tenants with means to improve? Where men are running away and dispersion is going on, instead of being cut up, farms grow larger; but plant there the principle of concentration—find out what that magnet is which draws men together, and invites them and makes it easy for them to combine their powers in order to give additional efficacy to their individual means, and an easier development and application of natural resources, and then farms begin to be cut up as in New England—for there land rises in value until a man can't afford to keep what he don't use.

It is not so much that the men of Maryland lack the capacity to manage large estates, but that they need the means which must always be proportioned to the area to be cultivated and improved. Give to Tilghman Crawford, on West River, the money capital to command the labor and the machinery, animal and mechanical, and he would regenerate a whole county, provided he could get suitable subordinate co-operatives. But it ought not to take a Crawford or a Capron, for any good farmer ought to manage well any estate not too large for its various operations, to come under his daily inspection. There are no more exemplary specimens of finished husbandry to be found anywhere, probably, than may be seen on Colonel Singleton's estates in Carolina, where a single field of cotton spreads over one thousand acres. In neatness and perfection of tillage, according to our observation, the rice and the cotton plantations of the South, by no means fall behind the cultivation in New York and Pennsylvania, if you go beyond the reach of towns and the markets afforded by dense populations, where the loom and the anvil, the saddler, and the shoemaker, and the hatter, are there to call for the produce of high culture. There is—it cannot be denied—there is, in Maryland and Virginia, that want of capital which can only be created where there is combination on the spot, and population on the spot—where, in a word, the ratio of consumers to producers is large, so that the least of time and labor shall be lost in the act of transportation and exchange—and the refuse of its production be returned to the great machine of production of all and for all —*the earth!*

It happens, singularly enough, that in the very two counties referred to most particularly by General Tilghman, for their laudable spirit in getting up and maintaining agricultural societies, one of them doubly favored in that way, both of them have been declining, not from, but in spite of these societies, during the time of their existence, so far as a sensibly diminishing population may be considered as the sign of decay. In ten years prior to the last census, Prince George's had fallen off 677, and Talbot 3000. But we have not room to pursue the reflections suggested by these exemplifica

tions of the condition and wants of agriculture in our good old native State, to which the standing of their authors would alone be sufficient to attract the public notice. But as what may be said on these topics, in reference to Maryland, if well founded, must be applicable to a large portion of our country, and therefore worthy of additional consideration, we shall return to the subject in our next—taking for a text the sentence in General Tilghman's address, beginning—"The want of day laborers is felt everywhere, except in the neighborhood of large cities." Agreeing with him as to the existence of the malady, we may respectfully differ with him both as to the *cause and the remedy!*

AGRICULTURAL JOURNALS INCREASING—HOW ENCOURAGED.

While it is gratifying to see that the number of journals devoted to the interest of this great pursuit is rather increasing, it is mortifying, at the same time, to witness how languid is the demand compared with that which calls new party papers into existence every day; and yet more, to see how miserably and meanly the proprietors of agricultural papers are rewarded, for all their outlay and wear and tear of pocket and of mind and body. That sort of reading and information which is most intimately connected with the vital interests of the farmer and the planter appears to be held in the very lowest esteem, and hence the necessity for placing the price of agricultural journals below that of the meanest and the most vulgar vehicle of party trash to be found in the country. You may find in any country, in any State in the Union, hundreds of respectable men, very vehement patriots, and very wise men in their own conceit, who do not hesitate to wager $10 on a horse-race, or an election, or to give $2 and get fuddled on a bottle of champagne, who yet hesitate and refuse to give the price of a bushel of wheat for an agricultural journal, that shall keep them well posted up in all the practical improvements making in the line of the very pursuit which constitutes the business of their lives; and for ignorance of which, if possessed of a proper pride, they ought to hang their heads in shame and confusion. True it is, that men who have been reared in desuetude and contempt for books and book-knowledge, rarely become alive to that greatest, and cheapest, most accessible and most civilizing of all enjoyments, after they have attained to settled manhood and their habits have become fixed. Thus it is, that with them a large portion of life which, with the man who is fond of reading, constitutes the most delightful part of his existence, passes in sullen apathy, or in beastly sensuality—but has such a man no thought for his children? Has he any right to withhold from his sons, while their habits are being formed, the most fruitful sources of knowledge in the way of their future pursuits and the most powerful stimulus to excellence, because they have not been enjoyed by himself? Of what, we would like to know, has a son so much right to complain of a father, as for withholding from him the means of knowledge—another word for virtue as well as power—which increases by all it feeds upon, and the love of which rarely takes root unless planted in the days of his youth? His filthy lucre he may give or withhold, for with it there is no natural or necessary association of knowledge, virtue or happiness; a fool for luck, has passed into a common expression—and of those who are born to fortunes, to how many has it proved a bane and a curse? But what words can characterize the improvidence, not to say cruelty, of the father, who can easily impart, and yet withholds from his children, the thirst for information and the means to gratify it?

What a curious document it would be! What melancholy reflections it would create, to see a *catalogue of the books and journals provided for the use of their families, by farmers well to do in the world*, in many counties that we wot of! How does it argue in proof of our boasted "progress," under our much-vaunted republican government, that agricultural journals, to get any support, must come down to or under $1 a year, and then waste half the amount in the collection of arrearages, from subscribers who, after the first year, remember to forget to pay! And yet how often have we resolved that we are the most enlightened, the bravest, the most wonderful, and the most progressive of all the nations of the earth!

THE VERMONT STATE AGRICULTURIST.

We respectfully welcome the coming of this new member of a fraternity, laboring as we all are, on short allowance, but with good heart, to benefit the great productive industry of our country; and we welcome our new colleague the more heartily, as he enters on his task evidently with a high and worthy appreciation, not only of the ends to be aimed at, but of the proper means to be employed, and with first-rate capacity to use them with effect—of all this the reader may judge by a single sentence.

The cultivation of the soil, says the Editor, "though consigned in olden times only to the unlearned and unmannered of the race, appears of late to have manifested a wonderful tendency to improvement. For many centuries the employment of the brutish peasant, despised by the educated, oppressed by the powerful, and neglected by statesmen, has learned during the past few years to claim for itself the highest rather than the lowest place in the list of human occupations. From the classic land of Germany, from the vine-clad hills of France, from the princely country seats of aristocratic England, from all parts of our own dear home of liberty and equality, comes the prolonged echo of Washington's far-famed sentiment: 'Agriculture is the most healthy, the most useful, the most noble employment of man.' The researches of a Davy, a Liebig, a Johnston, a Chaptal, a Dana, [a Ruffin, and a Buel;] the influence of many men placed in the highest positions in society; the enactments of legislatures; and above all, the efforts of the press, have at length roused the spirit of investigation, and set thousands of inquiring minds upon the track of new discoveries. Men are becoming conscious of the true dignity of a profession so closely conversant with the infinite wisdom and beauty of the works of the Creator. Labor has been at last ascertained to be not the perversion, but the end of the human organization; and the first minds of the civilized world are no longer ashamed to till, with their own hands, the soil from whence they sprung."

In the Editor of the Vermont State Agriculturist, we may hope to have one, at least, who will co-operate in demanding from the government as much for disseminating a knowledge of the sciences necessary to give the highest degree of efficiency to agricultural labor and capital, as the government, at the expense of the farmer and the planter, now bestows for increased efficiency in the arts of war; and by means of which, according to General Jessup, the whole militia of the United States may be converted into well-disciplined soldiers in about ninety days.

Should Messrs. Hopkins and Clarke unite with us in thus claiming for the great art of production as much at least as is now appropriated of the people's money for the barbarous arts of destruction, they will be the first whose voice has been heard to cheer us in that line of conscientious duty.

Most cheerfully will we step aside and leave them, as being younger, and more alert, and powerful, to take the lead in such a path, following in their wake at such respectful distance as we may.

N. B. The Vermont Agriculturist contains 16 pages quarto, and the price is but $1 !!

SOUTHERN WHEAT-GROWERS.

"*To Wheat-Growers of Georgia, and such portions of South Carolina, Alabama, and Tennessee as do business at Augusta.*—The undersigned, having in progress the erection of two merchant mills on the Augusta Canal, which it is hoped will turn out 100,000 bbls. of flour per annum, wish to encourage the cultivation of wheat at the South. For that purpose they offer and will pay the following premiums:

1st. $100 (in a silver pitcher) for the best 50 bushels of wheat.
2d. $75 for the 2d best do.
3d. $50 for the 3d best do.
4th. $25 for the 4th best do.

The grain to be delivered at the mills of the undersigned in the city of Augusta, on or before the first Tuesday in September, 1849. It will be examined and the premiums awarded, by three competent and disinterested gentlemen.

JAMES L. COLEMAN.
JOHN CUNNINGHAM.

Augusta, October 13, 1848.

There is, we presume, no doubt of the superior quality of flour from southern wheat, as to dryness and capacity to endure, without souring or getting musty, the effects of time in southern latitudes—hence the preference given to Richmond and Baltimore flour for the great market of Rio Janeiro and other southern ports.

It is gratifying to see the spread, in the south, of the persuasion that the nearer the manufacturer comes to the great and expensive machine of production, the better for all parties. The motion is a natural one, and would take place everywhere, if vicious and monopolizing legislation did not interpose to prevent it. It is as natural and mutually beneficial to have the weaver go near the cotton with his loom, and the blacksmith go with his anvil near to the horses to be shod and with his ploughs near the fields to be cultivated, as it is for the mill to go to the grain to be ground. But here is an attempt to turn labor and capital from the production of cotton to that of bread—the consequence of which will be that to the amount that the cotton-grower is benefited, the wheat-grower is depressed by a still greater surplus of *his* staple. What then is the remedy which applies to both and relieves both? Clearly to increase, in our own country, the number of consumers for both staples, *to consist of persons who do not produce either.* The estimate is, that in the act of bringing a ton of iron into market there are $25 of agricultural products consumed—yet in three days recently there was imported into New York as much iron as was equivalent to the importation of several hundred thousand dollars of English or Continental agricultural products.

Georgia Manufactures.—The Savannah Republican says:—We are gratified to learn that the United States government has made a contract with the Milledgeville factory for the delivery of 300,000 yards of Cotton Osnaburgs. This contract was made after a comparison by a government agent in New York of the Milledgeville with other like fabrics from other manufactories. This is not only a high compliment to the work done in Milledgeville, but affords unquestionable proof of the remark so frequently made, that, for obvious reasons, manufacturing in cotton can be done cheaper in Georgia than in the Northern States.

NEW AGRICULTURAL IMPLEMENTS.

THE next best thing for a farmer, in search of knowledge of improvements in the practice of his profession, after travelling with his eyes open and his ears open, (for there is a good deal in that,) through old England, and *New* England, is that of *reading*. The two may be profitably combined, but if only one is practised, personal observation would seem to be the better of the two, because then you will see and can make inquiries on the spot about a thousand things that do not find their way into print. We would defy any southern man, going from regions most highly favored of Providence, and yet from which the young men are flying away, and the young women remaining in single blessedness—we defy any man possessing any power and habits of observation, to go to any part of Connecticut or Massachusetts, without seeing how indispensable are consumers near the plough to insure prosperity to the plough. But this fact is more fully discussed and illustrated in all its phases in "The Plough, the Loom, and the Anvil."

The purpose here is to state that two implements have lately been invented in England, which it is said will "*supersede ploughing!*" The first is a machine for *cutting drains, four or five feet deep*, doing it at *one-tenth* the expense of manual labor; and the work so beautifully even and superior, as to admit of no question; and every one who knows any thing of the sources and the course of modern improvements in agriculture, knows that deep and effectual draining is the first step which ought to be taken towards agricultural improvement. But the expense of it has been hitherto so enormous, that the richest lands in the old States have not been brought into use: nor can they be in any State, except where there is the presence of a prosperous and numerous class of consumers to demand and pay for the heavy, bulky, and perishable commodities, that would enable the farmer to meet the expense of the operation. Even the population of New England is not yet thick enough, to drain even that most magnificent country along the Connecticut river. For, let us talk of population as we may, even in our most thickly settled States, concentration (with its obvious blessings) has only commenced. Compare, for instance, Great Britain with her 118,000 square miles, with New York and Pennsylvania of about the same area. The first containing, in 1840, twenty-four millions, while the two last numbered only between three and four millions! But we are forgetting the two new implements which it is said will "*supersede ploughing.*" The second one is a *subsoiler*, by which "any given quantity of soil may be brought to the surface." In favor of the benefit of subsoiling, the reasoning is as plain as a pike-staff, and yet it lies in the compass of a nut-shell. Thus has it been most plainly stated:

That where land has been ploughed time out of mind, the bottom becomes solid as a road; the water is either entirely prevented from penetrating deeper than the plough goes, or it takes a very long time in getting down; and when the roots and fibres of growing crops get so deep, they cannot penetrate further, but curl round and round, the crop looks sickly, and the farmer wonders what is the matter: where by using this subsoiler, the land is well loosened, the water gets quickly down to the drains, the roots grow right away, without any impediment, and the crop, of course, comes to greater fulness and perfection. It is a fact of which the agricultural public seems not to be aware—or at least, we should say, it seems to us to be a fact, that too much ploughing has done immense injury to the land. Its surface has been so often scratched and exposed to the *wasting* (not the *absorption*) of rains, like washing potatoes in a basket, that the very life of it has been washed out and carried off. Now, if this subsoiler will pulverize, as is

stated, to any depth to let down the rain-water and the roots, and "supersede ploughing," leaving the cultivator or harrow for surface work, to keep down grass and weeds, its value is not easy to be calculated.

Now the next thing is to know the cost, and to get models of these things. Who will write out for information and for drawings? Will the State Agricultural Societies? will the American Institute? *Nous verrons!* But if an instrument of equal importance in *fashioning* the products of agriculture, instead of producing them, were announced, how long would it be before it would be imported for the use of the manufacturer?

We have again and again, for years, called for and predicted the invention of labor-saving machinery, for ditching and draining, and behold here we have them announced. Some years since that very ingenious machinist, *Mr. Page*, of Baltimore, invented a contrivance for *ditching by horse-power*—can any one tell us why it was not brought into use? If the first attempt lacked something of effectiveness and perfection, that was nothing more than was to be expected; or was it laid by under that impatient temper which prompts men of genius to fly from one thing to another? and why is it that a beginning so promising as that seemed to be was not consummated and carried into practice? We sometimes almost wish we had a ruler possessing the munificence of an Alexander, or the combined genius and munificence and power of a Napoleon, to offer to a Henry, a Norris, or a Page, an adequate reward for applying portable *steam-power to ditching and harrowing and other agricultural purposes*. If to be done by means of Indian-rubber, the *good year* is not far off that we would witness its realization.

Weight of Fowls.—"A very Constant Reader" asks whether the 2 lbs. and 2¼ lbs. spoken of as the average weight of chickens fed up to ninety days old, refers to the live-weight or the weight of fowls trussed for the spit. Of some fowls born on the 9th of June this year, the live-weights on the 7th of September averaged 2¾ lbs. and 3 lbs. They were not of a large kind, having more or less of the wood pheasant blood in them, and had been well fed in a good walk, but were never cooped. Laying hens of the same breed, four or five months old, averaged 3½ lbs. weight. He thinks some statistics of this kind might lead to useful results, especially with reference to the age at which it is most profitable to send various kinds of fowls to market. Guinea fowls, he notices, at three months old were larger than common fowls. He asks if the price of fowls in London or in our large cities is regulated by the weight; and if so, what is the average price of, say a hundred weight of fowls three months old, averaging 2½ lbs. or 3 lbs. live-weight? In many parts of the country an egg is the same price, whether it be 1¼ oz. or 2½ oz. weight, and fowls are a good deal subjected to the same rule. He believes, however, that if there were any fixed price by weight, and poulterers willing to contract for considerable numbers, now that the railway system is so well developed, large quantities would be sent from various parts of the country to the London market. It would be well worth while feeding fowls, which just now (September) are selling in many parts of the country for 1*s.*, so as to fit them for the London market at 2*s.* or 2*s.* 6*d.*—*English paper.*

Weeds.—Ferns may be destroyed by perseverance in cutting them off as they appear. Centaurea also.—*Ibid.*

IMMIGRATION AND AGRICULTURE.

We have the means of approximating the truth, as to the number of immigrants arriving at our sea-ports, and from what countries they come—but could not measures be adopted to ascertain to what *trade* or *occupation* the adults belong, and yet more, to *what States they go to "settle"* on arrival? Is it not wonderful, how little of that great element of increasing power falls to the lot of Maryland, Virginia, the Carolinas, and Georgia, whose immense districts, of upland counties at least, present such incalculable advantages? Are the rulers and great men asleep in those States, or are they alive only to the spirit of party and office-hunting, that they do not look into such questions and devise the means of sharing the labor and capital that are every day pouring into the country from abroad? Why do not the great men of Virginia—for she has always abounded in great men—great in the newspapers, and great upon the stump, great upon the race-course and great on the floor of Congress—why do they not lay their heads together, to make Norfolk, toward the south and west, what New York is towards the east and north? What advantage does New York possess that Norfolk does not possess or counterbalance? Why not start steamboats from Norfolk to New York and to Europe, to carry tobacco, and flour, and passengers, and bring back goods and passengers? If the Germans coming from the countries to which Virginia sends her tobacco could be landed in Norfolk, what an opening for them in the mountain and upland regions of the State!

There came from England, from the single port of Liverpool, during the half-year ending June 30, 1848, in 405 ships, immigrants to the number of 65,128; and of these, how many does the reader suppose came to the United States? Why *only* 62,756. The residue divided between fifteen different places and countries. Now how many of these on arrival went south of the Delaware? And who can calculate the amount of wealth, and the productive power of the minds and the sinews of these 62,756—say 125,512 added in one year—to the resources of the States that caught them? As to the *intellectual* riches they brought—the power of genius, which transcends that of muscle, as steam does that of horse-power, the *New England* States monopolize that chiefly, because they alone have the practical good sense to set their true value on concentration of population and variety of employment suited to all.

Poultry.—The article on Poultry, from the Newcastle Farmers' Club, is wrong on several points which we cannot here correct seriatim. The addition of a fifth toe is certainly one very distinguishing characteristic of the true Dorking breed, whatever may be said to the contrary. The absurd statement about Cochin China hens laying two or three eggs per day, is copied from the second edition of Richardson's "Domestic Fowl," a work so inaccurate as to be more likely to mislead than to guide the amateur. The Cochin China is, nevertheless, a very valuable variety, and is to be procured in London, though at rather a high price. But the task of naming prices and recommending dealers is a thankless one, which is better avoided. Nobody would keep hens in "wards" who could possibly allow them to be at large. The mode cannot be profitable, except on a small scale for high-priced fancy breeds. There is at present no good, useful book on Poultry that can be depended upon. One on the subject, by the author of the articles on "Ornamental Poultry," which have appeared in our columns, is now in the press.—*English paper.*

ON THE CULTIVATION OF FRUITS.

THIRTY years since, "*Horticulture*" was a prominent feature in the title of the paper commenced in Baltimore, by the senior Editor of the Plough, the Loom, and the Anvil, under every discouragement, for the advancement of all branches of rural industry. From that day to this, we have never ceased to apply every incitement we could think of, in the way of argument and example, of denunciation and praise, to shame the negligent and to encourage those who are attentive to the cultivation of fruits and vegetables.

If we had our way, in doing what we believe would best promote the true welfare of society, we would have Congress vote a gold medal, or a pension, sooner to the man who, like Doctor Bayne, leads the way in horticulture, in the midst of a country neglectful of that elegant, innocent, and useful art, than to reward in that way the slayer of ten thousand guerillas. And were we President of the United States, so help us Heaven! we would feel bound to select such a man, for such a service to his fellow-men, for the governorship of a province, sooner than we would one who could say in a public despatch (we care not what may be his party politics) that "the most beautiful scene he had ever beheld was when, by moonlight, he could see and hear the crash of the houses in the thickest settled part of a Mexican town, falling under the force of his well-directedcannon-balls," destroying doubtless the lives of hundreds of women and children.

But in all the examples we have seen to excite the proprietor of land to a closer attention to horticulture, here are strung together the greatest number of remarkable instances of the *profit* of fruit culture: for it seems, after all, that if men are to be moved you must touch them in the "*pocket nerve.*" Much more beautiful, however, is it to see a gentleman or lady prompted to the care of fruit and flowers, under the refining inspiration of a love of such pursuits, for their innocence and their amusing nature, and for the enjoyments they afford them the means of imparting to their family and friends. Who believes, for instance, that when Wilder is watching the budding and the fruiting of a new pear, or the blowing of a new japonica; or Mrs. George Law, of Baltimore, is busy among her vines, or in her green-house, and beautiful shrubbery; that their pure delights are contaminated by sordid calculations of pecuniary interest? For the mass of mankind, however, it is true there is not so much—though with all there is some—time and means that may be given *con amore* to such objects. With those, then, who are compelled by necessity, or led by a coarser nature, to heed only such occupation of time as will tend to fill the purse, the following may have its weight.

We may add a case of a single vine of the Isabella grape, growing in the rear of the office we lately occupied, which, spreading over a surface of some twenty-five feet by ten, bore six hundred bunches of fine grapes—enough to give to the family table twenty bunches a day for thirty days! Yet how many—nay, how few, there are of farmers on a scale of 500 acres or more, who have it in them to provide a single bunch of grapes, or an apricot, or even a really good apple or pear in the whole year!

(From the Horticulturist.)

PROFITS OF FRUIT CULTURE.

Having seen, in a late number of the Horticulturist, an account of a cherry tree that produced ten dollars' worth of fruit in one season, permit me to give a chapter of facts on fruits, most of which are within my own personal knowledge.

Mr. E. Cable, of Cleveland, O., has an orchard of an hundred cherry trees, now twenty-two years old. In the year 1845, his crop sold for upwards of one thousand dollars. Mr. C. manages his orchard better than any other person in the Union, so far as my know-

ledge extends. The trees are planted out twenty-five feet apart, the ground kept properly enriched and cultivated, but no crop is put in.

Elisha Swain, of Darby, near Philadelphia, has the remains of a cherry orchard, numbering seventy trees, mostly of the Mayduke variety. In the height of the season, his sales amount to upwards of eighty dollars per day. Mr. S., to ensure a good crop every season, digs in a horse-cart load of manure to each tree in autumn.

Hill Pennell, of Darby, has twenty apple trees, of the Early Redstreak and Early Queen varieties, that stand on half an acre of ground. In 1846 these trees produced three hundred bushels of fruit that sold in Philadelphia market for seventy-five cents per bushel, or two hundred and twenty-five dollars for the crop.

Mr. Pennell has a grape vine of the Raccoon [Fox grape] variety, that covers the tops of fourteen apple trees. It has never been pruned, but produces seventy-five bushels of grapes yearly, that sell for one dollar per bushel. The apple trees produce good crops of fruit, and under the trees is produced a crop of grass; thus making three crops from one lot of ground.

James Laws, of Philadelphia, has a Washington Plum tree that produces six bushels of fruit yearly, that would sell in market for ten dollars per bushel. Five of the above plums weigh a pound.

Mr. Laws has a small vineyard of Isabella and Catawba grapes, near Chester, sixteen miles from Philadelphia, three-eighths of an acre of which came into bearing in 1845. The sales amounted to three hundred dollars at eight cents per pound, or at the rate of eight hundred dollars per acre from vines only four years old.

Brinton Darlington, of West Chester, Pa., has a Catawba grape vine, that produces ten bushels of grapes yearly. This crop is worth forty dollars at market price.

Jacob Steinmentz, of Philadelphia, has a Blue Gage plum tree that produces ten bushels of fruit in a season, worth in market thirty dollars.

My friend, Ellwood Harvey, Chaddsford, Pa., the present season, gathered thirteen quarts of gooseberries from one plant.

A gardener near Philadelphia has two rows of gooseberry plants, one hundred and fifty feet long. One afternoon he gathered, with his own hands, six bushels of fruit, and the next morning sold them in Philadelphia market for twenty-four dollars.

A gentleman of Philadelphia having two apricot trees, that produced more fruit than his family could consume, concluded to send the balance to market, and expend the money it would bring in purchasing wood for the poor.

Judge Line, of Carlisle, Pa. has had two Syrian apricot trees that have produced five bushels to each tree in a season. In the Philadelphia market, they would have commanded one hundred and twenty dollars, in the New York market one hundred and forty dollars.

Hugh Hatch, of Camden, N. J., has four Tewksbury Winter Blush apple trees, that in 1846 produced one hundred and forty market baskets of apples. Without any extra care, ninety baskets of these were on hand late in the spring of 1847, when they readily sold at one dollar per basket.

The following facts relative to fruit-growing near the North river, I have never seen published. Three years ago, Mr. Charles Downing, of Newburgh, N. Y., informed me that a fruit-grower of his acquaintance in Fishkill Landing, N. Y., had gathered fifteen barrels of Lady apples from one tree, and sold them in New York for forty-five dollars. The same gentleman you speak of, in your Fruits and Fruit Trees of America, as having sent to New York sixteen hundred bushels of plums in one season, has sent to New York apricots, and received fourteen dollars per bushel for them. The above gentleman has often said that his plum trees, which are set out about the buildings, and take up but little room, pay him more profit than the whole of his valuable farm of two hundred acres. Another fruit-grower in your neighborhood has sent four hundred bushels of Frost Gage plums to market in one season, and received twelve hundred dollars for them.

Yet with all these facts before us, there is no full supply of any kind of fruit in the Philadelphia market, except peaches. Many farmers and gardeners neglect setting out fruit trees from a natural negligence; others dislike to pay fifty cents for a fine plum tree; others again are afraid that everybody will go to fruit-growing, and bring down the price to almost nothing. But we would ask, if there is any more danger of everybody commencing on a large scale the culture of fruit, than there is that everybody will commence the raising of onions, or the making of razor strops, or the cultivation of roses?

Philadelphia, Pa. B. G. Boswell.

How deep Roots will go.—The roots of corn, clover, and flax will go down three feet in a favorable soil, and even turnip roots in an open soil will go down more than two feet.

SOILS—CONSTITUENT ELEMENTS.

For any one who reads the following, on *soils and their constituent elements*, no further argument will be needed to show the expediency of the law passed at the last session of the Maryland legislature, at the instance of Mr. Coad, of St. Mary's, for the appointment of a chemist, to traverse the state for the analysis of soils and fertilizing substances, and for the delivery of lectures on the application of the appropriate sciences to the business of agriculture. We are not exactly informed what measures have been taken in execution of the law; but it is easy to see, or at least to hope, that in the performance of his duties by the person appointed, the farmers may possibly at last be led, incidentally at least, to inquire whether they too have not a right to demand something for the establishment of schools, fitted to diffuse, among the rising generation, some knowledge of chemistry, botany, mineralogy, mechanics and engineering; in return for the many millions levied on them annually, for the maintenance of military schools and establishments, and the publication of hundreds of thousands of military explorations and surveys? So far, there has been too much of that tame servility to other interests and classes, for which the best excuse is ignorance of what belongs to us; but may we not hope that the day is dawning when the cultivators of the soil will begin to reflect on what is due to those who pay three-fourths of the amount raised for the support of government; and the whole of that amount, at least three-fourths are paid for the support of men and means that *may some day be needed for the work of war and bloodshed!*

We remember that soon after the law was passed, it was given out that it were a scandal to the state not to take for granted, that the governor would not look to, or be governed by, party views or obligations, in the matter of a purely scientific appointment; nor have we any reason to apprehend that he has been guilty of any such prostitution of power—on the contrary, without knowing or caring a rushlight about the party politics of the appointee, except to hope that he would scorn to hold his trust on any such footing, we allow ourselves to hope for the most auspicious results from this first step in the march of public inquiry and attention to the claims of agriculture, suggested previously by senator Naill.

We need scarcely add the promise of our readiness in any humble way that we can, by this journal, to facilitate the accomplishment of all the objects contemplated by the law and the officer, worthy as he doubtless is, who has been appointed to fulfil it.

That the reader may form some definite idea respecting the composition of soils, and of the practical value of correct chemical analysis, we select the following table from Sprengel, who stands high as an authority in all subjects connected with agricultural chemistry. In a thousand parts of dry soil there were found of—

	No. 1.	No. 2.	No. 3.
Organic matter	97	50	40
Silica	648	833	778
Alumina	57	51	91
Lime	59	18	4
Magnesia	8½	8	1
Oxide of iron	61	30	81
Oxide of manganese	1	3	½
Potash	2	trace	trace
Soda	4	do.	do.
Ammonia	trace	do.	do.
Chlorine	2	do.	do.
Sulphuric acid	2	¾	do.
Phosphoric acid	4½	1¾	do.
Carbonic acid	40	4½	do.
Loss	14	0	4½
	1000	1000	1000

Now, this table is very interesting and instructive to the inquiring farmer. He learns from the analysis which it contains that the several substances to which we have already referred, enter more or less into all fertile soils, and, consequently, that the unproductiveness of any particular soil must be owing to the want of some of these ingredients, in their proper proportions, or to the presence of some deleterious matters—such, for example, as an excess of the salts of iron. That this knowledge of the nature and composition

of soils, when based upon accurate analysis, is not more curious than it is practically useful, we shall now proceed to prove. It is almost unnecessary to remark that no improving farmer will close his eyes against whatever light may approach him that will afford him clearer and more satisfactory views of the composition and capabilities of that which occupies his every-day thoughts, and upon which he and all creatures depend for subsistence —the soil he cultivates. In reference to the preceding table, Sprengel observes that the soil of No. 1 was among the highest in the scale of natural fertility, and had yielded heavy crops for sixty years without the application of manure. The second was below the average of the district in point of productiveness, nevertheless yielding good crops by judicious manuring. The third was all but sterile, affording scarcely any produce; but by the means of superior culture and manure might be made comparatively productive. Now, let us just take a glance at the contents of this table, and we cannot fail to learn something that will throw considerable light on the arcana of farming. The amount of organic matters, or that which gives peculiar richness to a soil, it will be seen, is more than double in No. 1 than No. 3, while the latter contains a greater quantity both of silica and alumina. Take lime, another important substance in estimating the capabilities of soils, and it will be seen that, while No. 1 has no less than fifty-nine parts of that material out of every thousand, No. 2 has but eighteen parts, and No. 3 only four parts. This indicates great dissimilarity. Again, let us turn to potash and soda, two very essential ingredients in all fertile soils, and it will be seen that, while No. 1 possesses two and four parts respectively, Nos. 2 and 3 contain of these valuable salts only a mere trace. And, if we look to chlorine and sulphuric and phosphoric acids, it will be seen that No. 1 contains an appreciable portion of them all; No. 2 a much less quantity, while No. 3 affords only a trace of their presence. It is of importance to remark, that in the most sterile soils what is commonly wanting are salts and phosphates. The foregoing will amply repay the closest investigation of the practical farmer, and will show him what important aid analytical chemistry can extend to his pursuits. Who can impartially look at these investigations without perceiving a greater beauty, a clearer reason, and the means of a more certain control over the various operations of the farm? Sprengel informs us, in reference to the second of these soils, that with good culture and manure it produced heavy crops of clover, turnips, and potatoes, particularly with the application of gypsum—a substance in which it will be perceived, by referring to the table, the soil was very deficient. For instance, how remarkably great is the difference between lime and sulphuric acid in No. 1 and No. 2! Now, the remedy in this case of No. 2 appears obvious, viz., the application of gypsum, which is a sulphate of lime, that is, sulphuric acid combined with lime; this manure being in both the materials, of which the soil is deficient. Agricultural chemistry affords numerous instances of a similar kind; and how much safer and more profitable is it for the practical farmer to be guided by the unerring principles of science in all his proceedings, than to depend merely on mere guesses or haphazard experiments!—*Pharmaceutical Times.*

Slugs.—The most effectual remedy against the depredations of slugs and snails, is to strew fine sifted ashes, with a little soot and lime, well incorporated together, over the ground directly seed is sown, and again when the plants are coming up, the lime and soot will form a coat over the stems and leaves of the tender plants, until they are strong enough to resist the enemy, and the sharp rough particles of coke or coal ashes will prevent their passing over it. The best time to sprinkle is when the dew is on the ground, or after a shower.—*Cantium.*

ON THE DEATH OF A YOUNG AND ENTERPRISING FARMER.

THE following we take room to copy, from the Mark Lane Express, deeming it no insignificant proof of the rising estimation in which agriculture and its successful and industrious followers are getting to be held, in a country to which we are always paying tribute; but—*not of the right sort.*

Who ever sees in an American paper, any words of respectful lamentation, at the death of an eminent American farmer, *as such?*

Were we to lose a Newton or a Minor, of Virginia, or a Thompson or Jackson or Jones, of Delaware; or a Davis of Montgomery, or a Goldsboro of Talbot, or a Ducket of Baltimore county—said to be among the many crack farmers of their States respectively, you would hear them lamented as good citizens, and good men, good husbands, and good parents; but would it touch any chord of sympathy in American bosoms, to deplore their loss as *good farmers?* Is public sentiment improved up to that point in its estimation of the most dignified and important of all human employments?

It is indeed a painful task which falls to our lot in having to announce the death of our esteemed friend, R. B. Harvey, of Harleston, Norfolk, cut off in the prime of life, his age being only forty-four. We fully concur in the eulogium passed upon him in the following remarks, extracted from the *Norwich Mercury*—

On Wednesday morning, at Pulham, St. Mary, in the forty-fourth year of his age, Mr. R. B. Harvey. The comparatively sudden demise of this agriculturist at the moment when, having reached his hopes as a breeder of Leicesters, and when his talent and industry had won for him the golden opinions of his brother farmers, and had placed him in the high position as one of the Council of the Royal Agricultural Society, can but be a matter of deep regret to all agriculturists who hailed the attempts made by such men as Mr. Harvey, to unite the theory and science of the closet with the practice of the field. Besides his agricultural and professional occupations as a valuer and auctioneer, Mr. Harvey found time for literary and scientific pursuits. He was a large weekly contributor, on agricultural matters, to the *Bury Post*—and in him we ourselves have lost, not only a firm and highly esteemed personal friend, but one to whom we are indebted for periodical reports on the state of the agriculture of this county; valuable both for the accuracy of the information, and for the judgment and observation they displayed on all matters connected with that subject. Mr. Harvey was an acute observer, and was gifted with an intellect beyond the range of common men. He was most energetic and zealous in the pursuit of any object he had once undertaken—a quality exemplified, we are afraid too fatally, in his rapid decline and death. On Monday se'nnight, he held an auction, which, we are told, he continued throughout the day to conduct without food or refreshment, although then suffering under the results of an attack of cholera, and of anxiety for his wife's serious illness. On the Wednesday following, he again attempted to fulfil his duty at another sale, but nature gave way under the effort, and he was obliged to be conveyed home. Such was his desire, that nothing he had undertaken should be left undone, to his client's injury, that, although seriously ill and in bed, he made arrangements the day after, with a friend, to secure their fulfilment, and, at the conclusion, as if overcome with the labor, he turned himself to rest, taking an ominous "farewell of his friend"—who felt a prescience that it was a last adieu. On Wednesday morning he breathed his last, within a short distance of his sick wife, who, confined by a most dangerous illness in another room, had been unable for some time to visit the partner of her joys and sorrows. Our deceased friend's career was short, his termination was sharp and decisive; but short as it was, it was marked by constant utility and industry, and by

a desire to move onward. The tenantry of Norfolk could have better spared a greater man. Nay, they will never possess any member of their body who will be more zealous in furthering the great interests of agriculture—more earnest to maintain the high character of a Norfolk farmer—nor one who better deserved at their hands the respect which is due to talent, industry, perseverance, liberal feelings, and an honest and upright discharge of the duties of the station in which it pleased Providence to place him, and from which he has been thus early summoned.

Flax-steep Water as a Manure for Flowers.—I used the water in which I had flax steeped as a manure for flowers last year. I followed up the experiment this year; and although I was from home for five weeks, during which time none of the plants had been watered with the flax-steep, still I am able to say that those dahlias to which I used the water early continued to keep ahead of those not so treated. The latter grew from two and a half to three feet high, while those to which steep-water was applied, grew from seven to eight feet high, when three of them broke down, the sticks being too weak to support them against the wind; but their beauty, from the abundance of bloom, surpassed any thing that I have seen. I have not manured my garden for these last four years, being determined to keep it poor, in order to try what effect flax-water would have in producing good full-grown flowers in cold, worn-out soil. I am now able to assert that none of my neighbors had such a blow of roses or dahlias as I have had; and to them I can refer, as they were witnesses of the fact. I had, by the use of flax-water last year, dahlias from ten to twelve feet high, loaded with the most perfect flowers. This rich liquid manure (for it deserves the name) will be found invaluable to market gardeners, and growers of flowers. I find it to annihilate the green-fly.—*J. Dickson, British Flax Mills.* [With this communication we received a sample of the dahlia blooms in question; but they were so much spoiled by travelling that no opinion of their merits could be formed.]

Calves.—I have found the following method to rear calves the surest and cheapest: let the calf run with the cow for a week, then shut it up, giving it about ten minutes' sucking night and morning, having ready small parboiled carrots scraped backwards; let the dairy-maid introduce the carrot into the calf's mouth, it will soon suck it. Continue this easy process for a few days, then cut in small pieces the boiled carrots and put them into a trough, the calf will soon eat them greedily; as soon as it does so, no longer boil the carrots. Now give it as many carrots as it will eat, and put into a little rack some good hay, with young rye and tares. Thus attentively managed, the calf will chew its cud in a fortnight; gradually reduce the time of its sucking, and finally wean it at the end of a month; then tether, on fine days, in good grass, still giving it the carrots at night; let it go into a warm, comfortable, clean pen. The cow from the beginning is either fatting another calf or filling the pail for the dairy. In the following winter let it have plenty of good hay and roots, with chopped straw and linseed, a quarter of a pint to a quart of water, put into a jar or saucepan and placed on the hearth on hot ashes; in the morning it should be done but not burnt. I have succeeded well with this simple method, and at eighteen months the heifers have generally had their calves by their side. Should they scour during the year, I give in balls one tablespoonful of Epsom salts, two of flour, and two of whitening or chalk.—*Anon.*

VINE CULTURE IN OHIO.

Cincinnati, September 17, 1848.

DEAR SIR:—Your letter was handed me a few days since, on my return to Cincinnati, having been from home for eight months, on account of ill health. Your correspondent wishes further information in relation to the pruning of the vine. As stated, we usually plant the cutting at an angle of forty-five degrees, or rather two cuttings, meeting within one or two inches at the top, and widely separated at the bottom; that we may, if both grow, remove one, without disturbing the roots of the other. We usually plant the upper eye, about half an inch below the surface, and let one shoot only grow the first year, and break out the lateral shoots from the three first eyes of the young shoot, after which we suffer it to branch. The following February, we cut the shoot down to three eyes, and allow the two strongest to grow; and if very vigorous, we break out the laterals of the strongest shoot for about three feet, and from the five first eyes of the other shoot, after which they are allowed to branch without further notice. The following February, when the vine has grown vigorously, we cut the strongest shoot down within three feet of the ground, and tie that branch up for bearing, generally binding it in the hoop shape. The other, and weaker branch, we cut down within five eyes of the ground. The long branch will generally throw out blossom-buds at each eye, and when beginning to bloom, we stop the end of the shoot, cutting it off two buds beyond the blossom; after this, we let this shoot grow at random. The other shoot, that was headed down to five eyes, we let grow three or four shoots, according to the strength of the plant, and break out the lateral branches up for five or more feet, according to the vigor of the plant, to the point to which we expect to prune for bearing the next Spring. The following February, we cut out the bearing shoot or shoots of the past season, close to the main stock. We then have three or four young branches from five to ten feet long. Two of these we usually cut down within five or six feet of the ground, for bearing fruit, and if there be three remaining, cut off one of them close to the main stock, and head down the two remaining shoots within four or five eyes of the main stock, and let two eyes grow from each, according to the strength of the vine, and richness of the soil, breaking out the laterals from these shoots for five or six feet, and topping the laterals of the blossom branches, as before stated. In like manner, each following year, in February, the bearing wood of the preceding year is cut out close to the main stem, and of the young shoots, two or more are cut down within five or six feet of the ground for bearing, and cutting down two of the young wood within five eyes of the main stem, to produce young wood, and if there be more young wood, cut it out close to the main stem. Each year thereafter, the bearing wood of the preceding season is cut off close to the main stock, and new wood for the following season always obtained from near the ground. Too much bearing wood is usually left, from a desire to obtain a large crop of fruit. The consequence is, if the vine is overloaded with fruit, it ripens badly, and does not bear strong young wood for the following season. Our foreign vine-dressers are also too apt to head the young shoots too much. In the colder countries of Europe they top the branches of the new wood, when five or six feet high, to aid it in ripening, and thin out the leaves, to let in the sun to ripen the fruit. In our hot climate the fruit is the better for a partial shelter from the sun. If the bearing branches are stopped after the fruit has set, it is apt to check the growth of the wood on the bearing branch. The wood prematurely ripens, and the sap ceases to flow, and the fruit cannot ripen, but shrivels and drops off. In the pruning, I have the Catawba in my mind. There are some varieties of de-

licate growth, which require much closer pruning; and the Catawba will, in poor soil, also require it.

The rot has been very destructive the past season, and my vineyards have, on an average, suffered a loss of two-thirds of the fruit. But many vineyards have escaped entirely, and the grape culture has increased so much that we shall this season make double the quantity of wine that has been made any previous year. My tenants, two months since, expected to make twenty-five thousand gallons of wine. They must now learn to be contented with eight or nine thousand gallons. The grape this season ripens better than usual; and it will be the fault of the vine-dressers if their wine be not of extra quality. My *must* is one-twelfth richer than in any former year. I regret to say, that some of our ignorant vine cultivators will "do as they did in Germany," break up the *mark*, mix it with cider, or water, and add it to the previous pressing. It was attempted by a person whose wines I engaged a few days since, but we detected the fraud, by applying the sacorometer. I do not believe our grapes are more subject to rot than they are in some of the best wine countries in Europe. My wine cooper, who is from Champagne, France, informs me, that he learns by his letters, that they have lost four successive crops by the rot, and that many poor people have, from necessity, cut up their vines, and planted potatoes and cabbages in their place. In Europe, they usually turn over their ground, by trenching two feet, and cut off all roots near the surface. On steep-side hills, we turn over the soil from eighteen inches to two feet deep, and make sod or stone embankments to the benches. We seldom take the trouble to cut off the roots near the surface, and we have many fine bearing vineyards, where the ground was ploughed only, and no surface roots cut off. But I believe the practice would be a good one, as in a hot, dry summer, the vine will suffer where the roots are near the surface. Where the sub-soil is clay, the roots will remain near the surface. It might have some effect in preventing the rot, to compel the roots to go lower down. In relation to our domestic wine, I risk nothing in saying, that our dry Catawba, and sparkling Catawba wine, is destined to take precedence of the dry and sparkling wines of Europe. No foreign wine retains the aroma and flavor of the grape so well as the Catawba. If you even make it into vinegar, you can tell the grape it is made from. But we have the prejudices in favor of European wines to overcome. I will give a singular instance to prove it. A few years since, a dozen of our winebibbers were selected to test the quality of the wines made at the vineyard of Mr. Resor, and my own. The Spanish Manzanilla wine, which is more fœtid than any other of the stinking goat-skin wines of Europe, had been introduced by Mr. Foote, and had become a great favorite, particularly with a certain gentleman of our city, esteemed one of our best judges, and he was one of the twelve judges selected. I slipped in a bottle of the Foote Manzanilla, that he had sent me as a present. Unfortunately for Mr. Resor, his wine was turbid, and had not a fair chance. While the other gentlemen were tasting the different bottles, and pronouncing judgment as they progressed, and separating the best from the other, my gentleman silently tasted of all the bottles, but said nothing, reserving himself as the umpire, in case of a difference of opinion. After tasting all, he remarked, "I will not now say which is the best bottle, but I will say which is the worst," and placed his hand on the bottle of Manzanilla. I replied, that "I agreed with him in opinion, but was fearful he would change his, when informed what wine it was;" and added, "that bottle was a present from Mr. Foote, of his celebrated Manzanilla, that you admire so much." "Is it possible?" said he, and took a second glass, when he smacked his lips, and ejaculated, "Well, I declare, so it is. How could I have made the mistake?" H. Longworth.

AGRICULTURAL FAIR AT FAIRMOUNT, BALTIMORE.

As we announced, incidentally, our design to attend the Agricultural exhibition on the 9th ult., at Baltimore, it may be expected that we should render some account of it; but for this we have little time, and, if possible, less space.

We can only say, therefore, with the benefit of not a little experience in the way of observation of such things, that it was among the best in some very important departments, especially when it is considered that it was the first that has ever been gotten up in the United States; but candor compels us to add, that, in some other branches, and such as *we* have been in the habit of considering among the most essential to rural and domestic manage ment and comfort, we might say rational enjoyment, it was one of the most meager and deficient.

The first thing that must have struck the mind of all who witnessed it, was, *the extent and completeness of the arrangements.* On the part of the president and his assistants, nothing was omitted that forecast enlightened by experience could suggest, or zeal and enterprise supply. It was fortunate for the great interest at stake, that the incipient measures for this great annual display of the agricultural industry of Maryland should have devolved on the liberality and activity of such men as Mr. GLENN and Mr. CALVERT, the presidents respectively of the Baltimore Agricultural Club and of the State Agricultural Society. But all know how much depends, in all such cases, on the energy of a few, while the many look on, as ready to carp in case of failure, and say—"Ah! I said so—I told you how it would be!" as they are sometimes slow to award the praise which is due, and which is in fact the only reward, and even more than is looked for, by those whose energy is only to be appreciated by the exhibition of what it brings into view—so much excelling, as in this case, the public anticipation.

On the part of the President of the Society, who seems, since his appointment, to have thought of nothing but how he should justify the confidence which imposed it upon him, the wonder was as general as it was natural, how he could have anticipated so many, even the smallest matters that were necessary to the successful and easy working and going off of the whole affair. For one of the largest and best exhibitions of cattle and sheep that ever took place in this country, stalls, printed labels, food, water, bedding—every thing was provided beforehand. There were tents handsomely constructed and arranged, with all the conveniences, for every committee. In short, instead of waiting for sore and vexatious experience of deficiencies, to indicate what would be necessary, he had every thing ready provided that the most ample experience could suggest. Instead of waiting for supplies of the needful hereafter, he boldly "took the responsibility," backed by Mr. Glenn, and feeling sure that he was moving in a good cause, determined to "*go ahead!*" and hence it was that, though it was the first, as we may hope, in a long series of Agricultural Fairs ever improving and to be improved; there was on the ground, as we see it on board of ship—"*a place for every thing, and every thing in its place.*" We choose to say thus much, as an humble set-off against that palpable, not to say culpable, apathy and indolence on the part of hundreds who ought to feel an equal interest, and who are yet slow to contribute in any form to the success of undertakings to benefit and advance the principal business of their own lives.

It is not to be expected, that in a work like this, the spread of which is equally over the whole Union, and the aim of which is to disseminate principles of the practice and of the economy of the plough, of universal application and importance, that space could be allotted to details of personal and

of local interest; we must therefore content ourselves with declaring, in the first place, the great pleasure it gave us to see and take by the hand, once more, so many farmers and planters from all parts of old Maryland, worthily known and distinguished for their intelligence and patriotism—gentlemen differing, it may be, in political opinions, but all agreeing in the soundness and wisdom of the policy which would place the interests of the plough in the lead of all public concerns; and now that we may flatter ourselves with the advent of an era, propitious to a calm examination and assertion of the claims of agriculture, to precedence before all others, may we not hope that those who follow it, in a sense of what is due to themselves, will hereafter make the measure of attention to it, on the part of public men and candidates for public favor, the test of popular confidence and the ground for public distinction? In token of an awakening sentiment, promising a consummation so devoutly to be wished, we may note the unanimous adoption of the following resolutions, offered by W. T. Earle, Esq., of Queen Anne's County, at a large meeting of the State Society:—

"*Resolved*, As the sense of this Society, that as far as the Government of the United States may be deemed constitutionally competent to the establishment of schools, academies, or other institutions, for the diffusion of the sciences applicable to any art or industry; it would better become a Republican Government, resting for support on the free will of the people, and would better comport with the true interest and glory of the country, that provision should first and most especially be made to disseminate a knowledge of the sciences connected with the *great art of cultivating the earth.*

"*Resolved*, That a copy of this resolution be communicated by the President of this Society, to the Members of Congress representing this State in both branches of that body, in the hope that they may feel themselves called upon to use their best exertions to have it carried out in the legislation of the country, so far as it may be deemed expedient to make any appropriation for educational or scientific institutions of any sort."

For one, we heartily thank Mr. Earle for entering this wedge,—it being, we believe, the first expression on the part of a State society, of a determination to persuade our Honorable Representatives in Congress to recognise the landed interest as really a State concern *worthy of some consideration!* These resolutions will afford excuse for *one* meeting at least of the *Agricultural Committee!*—which will be more than was held by that of the Senate at the last session, although, in his eloquent support of an humble memorial in behalf of the agricultural community, Senator Johnson, who would have referred it to a special committee, was answered, that the standing committee was *all-sufficient!*

To return to the exhibition. That of *cattle*—the most important—was perhaps the most varied, numerous, and excellent that has been anywhere exhibited in the United States. When we say numerous, we mean not in the number of oxen, for in New England you may sometimes see more than a hundred yoke of very superior cattle in a string. We mean in the number of thorough-bred of the most distinguished races—Short-horns—Devons—Ayrshires and Alderneys—many of them imported or directly descended from imported stock. Mr. Patterson, who kindly sent down a small detachment from his magnificent herd, did it, as was understood, to gratify the public curiosity, to see some specimens of what Devon cattle are, in their full development of excellence; and was content to let them be seen, without seeking the distinction to be won by premiums—thinking very justly, in his case, that "good wine needs no bush." The difficulty of procuring any of his is sufficient proof at once of their purity and perfection; and while he goes on to import the best bulls of that race to be had in England, and to throw off all that throw out the least blemish, even in his almost fastidious judgment, they must continue to maintain their supremacy. We were ourselves requested in the summer of 1847, to bespeak of him some ten or a dozen

young ones, but could only succeed in getting a bull and two heifer calves for Colonel Hampton.

The show of sheep was truly admirable. Those from Mr. Reybold's celebrated flock alone would have lent attraction to that department of the show; but when to the number of very superior Leicesters, and South Downs besides, we add the draft from the famous flock of Colonel Ware of Virginia, the product of such continued and skilful attention, no more need be said to persuade those who were not present to be satisfied that the show of sheep was enough to demonstrate that we have an ample basis on which to enlarge the flocks of Maryland and Virginia, when the taste of the good liver and the politician shall have been reformed into a preference for good mutton, and a desire to have the loom near the plough, so far at least as to produce and manufacture within these States respectively all the coarse woollens they consume.

Though it was our wish totally to avoid even glancing at details, it would seem to be due in courtesy to Mr. Clements, coming from another State, to recognise not only his direct and very large contributions to the exhibition in cattle, sheep, and poultry, but it is due to his judgment to state, that the splendid Durham bull, so much admired, (bred by that spirited and hearty son of Erin, Mr. Kelly,) as well as many more of the most admired animals on the ground, were purchased through Mr. Clements' personal, and we may add, professional, taste and agency. We understand, incidentally, that Mr. James Goldsboro, of Talbot, had the good luck to secure of Mr. Clements a lot of superior Southdown ewes, and one of Mr. Reybold's very best Oxfordshire rams. Time will show what the cross will bring forth. What we have further to say is, that when young farmers take hold after this manner, it is time for the Lloyds, and the Stevens, and the Martins, to look out, or the *Turners* in search of best mutton, may begin to turn their heads towards other flocks.

Colonel Capron carried a wide and leading swarth as usual; and as for Mr. Calvert, the president, it cannot be said of him that he pointed the way but did not go it himself. The official account of particulars, which will doubtless appear in the *American Farmer*, will show that these gentlemen appeared upon the ground with an eminence that we should characterize as dangerous, if—*they should ever withdraw their contributions.*

Of the exhibition of fruits, of household manufactures, and of the products of the dairy, we would fain say nothing, since the least said is soonest mended. For ourselves, we have been accustomed to consider whatever most evidences attention to these departments, as most auspicious of all that makes domestic life comfortable and happy—for excellence there generally is the fruit, more or less, of *housewifely* thrift, and care; and who ever yet saw a good pie in which the good woman had not had a finger? The prize prints of butter, from the Springfield Dairy, exhaling a sweet, rich, grassy flavor not altogether new to us, might rival the celebrated products of Pennsylvania dairies; but when we considered how highly and deservedly the reputation of Baltimore butter has risen within our recollection above all other competitors, except that of Philadelphia, we must confess our great disappointment at the meagerness of the exhibition as to number of competitors, in that interesting branch of rural industry. The fruit from the orchards of Druid Hill were just enough to show what might be effected in that department here, under circumstances eminently favorable to the success of all well-conducted horticultural enterprises. We must not altogether forget, in this very hasty notice, the honest *mule*—so sure upon the foot, and so true to the draft—animals in whose favor and of whose value and virtues we have written, and caused so much to be written by others, that if they had inherited the

faculty of one of their great ancestors, they would *speak* in our praise. This premium went, notwithstanding the very superior display of their kind, where many have gone before, to old Talbot County, in honor of the spirit of an officer of the navy—one among so many who have rendered like services to agriculture, and who brought their sire, *Peter Simple*, from the shores of the Mediterranean, to prove what a genuine fine animal of the long-eared race *is*, and what he *can do* for his adopted country. For ourselves, we promise never to join any party to proscribe such immigrants as the premium Ass on this occasion, or any of his progeny. To save the last mail, prior to our leaving for the Easton Cattle Show, and being thus cut off from further communication with the Printer, we must close this hasty and very imperfect sketch without time even to look it over.

Postscript.—No portion of the show seemed to attract more lively demonstration of a desire to go into the merit, not to say the *marrow*, of the subject, than the *hams* exhibited for premium. The judges, strange to say, were slow in their attendance, and in the mean time not a few threw themselves, it might be accidentally, in the way of being summoned as talesmen. As if not satisfied with the verdict of the jury, they were brought up for a second trial, and when we saw the prisoners at the bar, they had been so sharply set upon, and so badgered, that they were reduced almost literally to skin and bone. In our poor judgment, a hungry man would say, either was good enough if there was enough of it. In view of the near approach of the season for putting them in practice, we give the recipes by which three of them were cured:—

Mrs. Horsey's [the prize] Ham was cured by the following Recipe—For twelve hams of common size, take 8 lbs. brown sugar, half a pound crystalized saltpetre, and 5 lbs. fine Liverpool salt; rub well with the mixture, and let them be a week in a cask with the skins down, then make a brine strong enough to bear an egg, and add 2 or 3 quarts of lye from hickory ashes, refined by boiling and skimming, cover the hams with the brine and keep them down with a weight, and let them remain in it 3 or 4 weeks; then hang up in a smoke-house, and after 24 hours, smoke with hickory wood until cured, say 6 weeks. This ham was wrapped thickly with timothy hay before being boiled.

Thomas Duckett's Mode of curing the Hams offered at the Show, which took the Second Premium.—To 1000 weight of hams apply the following *mixture*, well rubbed on. Five-eighths of a bushel of fine salt, four pounds of saltpetre, two tea-cupsful of red pepper, half a gallon of molasses, 1 gallon hickory ashes. Let the hams be packed away for 5 weeks with the rinds down. Then smoke for 3 or 4 weeks with green hickory wood and tobacco stalks, (in which there is a certain quantity of saltpetre,) and as soon as sufficiently smoked, cover them with pepper and ashes, (well mixed,) and sew them up in bags to protect them from the flies.

Thomas P. Stabler's Manner of curing the Bacon Ham exhibited for Premium.—After the hog is put up to fatten, he is fed from 4 to 6 weeks on corn alone. When killed, suffered to become entirely cold previous to being cut up. Each ham then well rubbed all over with a heaped tea-spoonful of saltpetre; permit this to be absorbed by the meat, and then rub well with the best Liverpool blown salt, filling the skin at the hock end. Place it in the tub, skin downward, and cover the flesh side (now uppermost) with salt of the same kind, a full quarter of an inch thick. Then let it remain from twenty to twenty-five days, according to the size of the meat. When taken out, carefully remove any salt that may remain on the outside by washing in water, using a hair brush. Hang it up in the meat-house, permitting no two pieces to touch each other—and smoke it *constantly* for ten or fifteen days. Early in the spring rub it well all over with unslacked hickory ashes, and rehang it as may best secure it from rats and mice.

After all, much depends on the *age* of the hog, his *rearing and education!* For this, the genuine democratic school of the "largest liberty" is admitted to be the best, roaming where he listeth, and not put under inconvenient restraint, until he arrives at years of sufficient discretion and experience to hear a falling apple, or smell a chestnut or an acorn, a quarter of a mile off.

He should weigh from 140 to 160. The ham that took the *second premium* (and there need be none better this side of Westphalia, unless it be the pea-fed ham of North Carolina) weighed, we should guess, about 13 pounds; and the hog, therefore, probably, about 200. The hams of a hog, when cut up for the tub, weigh about one-fifth of the whole, and they lose about one-third in curing. Thus a hog weighing 200 will give two hams of 20 pounds each, which will cure down to about 13 pounds.

All friends of improved husbandry, and all judges of what is indispensable to its accomplishment, must have been particularly gratified at the *collection of agricultural implements and machinery.* In that respect this exhibition was very remarkable, proving clearly, how much, as we have often said, the agricultural community is indebted to that class of manufacturers. As an obstacle to perfect tillage, and, of course, to abundant and profitable harvests of every thing; nothing is more prominent than the *deficiency in the number and character of the tools and machinery with which the farmer works, which may be noted on almost every estate;* nor can associated men, mind, and means, for agricultural improvement, be anywhere, or any how, better employed, than in stimulating and rewarding such improvements and inventions as will enable the husbandman to perform his work with less labor, and at the same time more thoroughly. Some Philosopher has declared that among the greatest benefactors of mankind, is he who invents a new *want.* While the *bon-vivant* says, of all things a new dish is to be esteemed as the greatest blessing—all must agree, that he deserves well, who invents the *means of most easily supplying* the wants we have—and among such benefactors, he deserves to rank most conspicuously, who invents and manufactures a *new and more perfect agricultural implement.*

After all, might it not have been worth while to appoint a committee to report what proportion of the implements and machinery exhibited there, and used in Maryland, is made *within the counties where they are used*—out of Maryland timber and Maryland iron—by men on the spot, who consume Maryland beef, and bacon, and mutton, and potatoes? We think we saw well known and popular Yankee stamps on much of what was exhibited. It was in view of that, that at a late dinner in the town of Lynn, the great shoemaking town in Massachusetts, where about six hundred lively independent citizens sat down to the agricultural dinner, being complimented and toasted far beyond our humble deserts, we were prompted to close some hasty remarks with—"the *spread* southward, of that sagacity and ingenuity, which enable you to draw the wool of other states to your looms, the iron of other states to your anvils, and the leather of other states to the lapstones of Lynn." True, it may be said, that we ship our corn and our flour to these eastern manufacturers of our ploughs, rakes, pitchforks, and shoes; but would it not be better to feed these on the farm, or find a mar ket for them near to it—that the refuse might improve the farm, and the expense attendant on distant markets be saved?

Of Mr. Carey's address, with which this great exhibition closed, his enlightened views of the economy and practice of agriculture, as already known by his writings, assure us that in it we shall have a valuable addition to the stock of agricultural philosophy and information.

We shall have something further to say about Mr. Ware's sheep, and some other things; this being but a hasty sketch, *currente calamo*—on the eve of a long-intended, flying visit to the good old Eastern Shore of Maryland—the land of good hominy, good oysters, good ducks, good mutton, good men, and what is more—*gentlemen!*

SERPENTS.

'The snake, renew'd in all his speckled pride
Of pompous youth, has cast his slough aside;
And in his summer livery rolls along
Erect, and brandishing his forked tongue.'—
DRYDEN.

WHEN I was lately at Brighton, I met with a man who employed himself in summer in catching adders, the fat of which he preserved and sold as a sovereign remedy for hurts and swellings; and some other parts of the animal went to the apothecaries to be used in their materia medica. In catching them, this man used a forked stick and a shorter one. With the first, he pinned the adder to the ground, and killed it with the other. He was accompanied by a dog, who hunted for these animals; and who, when he had found one, contrived generally to seize it by the middle, and shake it with so much rapidity against the sides of his head, that not one adder in a hundred had time to bite him before he killed it. His owner, however, informed me that when this happened, his head instantly swelled, but the swelling was almost as quickly removed by rubbing it with some of the fat of adders, which he always carried about with him for the purpose. Twenty-five adders yielded about half a pound weight of fat. They feed on worms, mice, frogs, and young birds; and it would appear that before the winter sets in, they quit the open downs, where they are found in summer, for the neighbouring woods, as a laboring man told me he had found nearly sixty of them clustered together in a torpid state, while grubbing up an old tree in one of Lord Chichester's woods. They will, however, hybernize (if I may use the word) with the common snake and the slow or blind worm,* each of these having been found in close company with some vipers in a torpid state, on digging a drain in the grounds of Burwood Park, at Walton-on-Thames, a short time ago. The viper-catcher whom I met with near Brighton, assured me that he had frequently seen the young vipers take refuge in the inside of their mother by running into her mouth, which she opens for that purpose, when danger is apprehended. He also asserted that they are produced alive, the ova being hatched in the inside of the mother, from which they probably creep, as they must do at a more advanced state, after they have made it their place of refuge.† He said that, by letting vipers bite a piece of rag, and then suddenly snatching it from their mouth, he easily extracted the fangs, and that he then frequently put the animals between his shirt and skin, and brought them away alive.

Snakes are easily tamed, an instance of which is mentioned in Mr. White's Naturalists' Calendar: and there is a stuffed specimen of a snake now in the Zoological Museum, which, when alive, was perfectly tame, and had been eleven years in the possession of the gentleman who presented it to that society, and to whom it showed a strong attachment. Eton boys have always been great tamers of snakes, and many school anecdotes are current of the attachment of these reptiles to their owners.

Snakes, unlike the viper, are oviparous, and their eggs are linked together in a sort of chain, and are each about as big as a large marble. They feed on frogs, mice, certain insects, and also on young birds. It is supposed by some people that they destroy the eggs of partridges and pheasants; and for this reason many gamekeepers make a point of killing them. Snakes have sometimes been found on the branches of trees, which they have contrived to ascend in search of young birds. A person lately informed me that he had found one in that situation. A snake has been seen to swallow a newly-hatched chicken; and I once observed one in the act of attempting to swallow a full-grown frog. I was attracted to the spot by the cries of the latter, which were very loud and piteous. The snake made great efforts to get the frog down his throat, which he at last succeeded in doing. If trampled upon, a snake which has just swallowed a frog will at once eject it.

The fact of snakes annually casting their skin, or slough, is very curious. I have found the slough of one twisted among some young quicksets, in a hedge-row, and appearing perfectly fresh. The circumstance of the cast-off skin being twisted in the way I have found it among some twigs, seems to prove that the snake had not been able to rid himself of it without having recourse to something not very pliable which would assist her in the operation, although Mr. White says, that he had found the slough in

* It is a spring amusement for American farmers to go in search of snakes while hybernizing, when they find them in caves and clefts of rocks, knotted together by hundreds. The stench is stated to be sometimes intolerable. Bartram has some curious particulars respecting snakes.

† The mode of parturition stated by the viper-catcher is generally supposed to be a vulgar error. He seemed, however, very confident that he was right. May not the viper, like the lizard, be ovo-viviparous? Some naturalists are of this same opinion.

a field near a hedge. His account is as follows:—"About the middle of September, we found in a field, near a hedge, the slough of a large snake, which seemed to have been newly cast. From circumstances it appeared to have been drawn off backward, like a stocking or woman's glove. Not only the whole skin, but the scales from the very eyes, were peeled off, and appeared in the head of the slough like a pair of spectacles. The reptile, at the time of changing his coat, had entangled himself intricately in the grass and weeds; so that the friction of the stalks and blades might promote this curious shifting of his exuviæ.

'———Lubrica serpens
Exuit in spinis, vestem.'—LUCRET.

'The slippery snake
Casts off its vesture in the thorny brake.'

"It would be a most entertaining sight could a person be an eye-witness to such a feat, and see the snake in the act of changing his garment. As the convexity of the eyes in the slough is now inward, that circumstance alone is a proof that the skin has been turned; not to mention that now the present inside is much darker than the outer. If you look through the scales of the snake's eyes, from the concave side, viz. as the reptile used them, they lessen objects much. Thus it appears, from what has been said, that snakes crawl out of the mouth of their own sloughs, and quit the tail part last, just as eels are skinned by a cookmaid. While the scales of the eyes are growing loose, and a new skin is forming, the creature in appearance must be blind, and feel itself in a very awkward and uneasy situation."

BIRDS' NESTS.

"The nest of a bird is one of those daily miracles, that, from its familiarity, is passed over without regard."

His late majesty, William IV., when residing in Bushy Park, had a part of the mizen-mast of the Victory, against which Lord Nelson was standing when he received his fatal wound, deposited in a small temple in the grounds of Bushy House. A large shot had passed completely through this part of the mast; and in the hole a pair of robins had built their nest and reared a brood of young ones. It was impossible to look at this without reflecting on the scene of blood, which had occurred to produce so snug and peaceable a retreat for a nest of harmless robins.*

There is something extremely curious in the situations which birds sometimes select for their nests. Mr. White mentions two remarkable facts of swallows having built their nests in odd situations, one on the handles of a pair of garden-shears, which were stuck up against the boards of an outhouse: and the other on the wings and body of an owl which hung dead and dry from the rafter of a barn. Calling some years ago on the Rev. Egerton Bagot, of Pipe Hayes, in Warwickshire, I was surprised at seeing a swallow's nest built on the knocker of his hall door, and the parent bird in the act of incubation. When the door was opened, which it frequently was in the course of the day, the bird left her nest for an instant, but returned to it as soon as it was shut. I afterwards learned that the swallow hatched, and that her young arrived at maturity. Some birds indeed show great boldness in the situation in which they build their nests, as if they depended on the kindness and protection of those under whose care they seem to place themselves. Thus a whitethroat had its nest for three years on a vine close to my parlour window, where it was quite open to observation; and a robin built on the shelf of my greenhouse, which was constantly visited, and the bird looked at while sitting; but she never left her nest at those times, and seemed perfectly secure and contented. There is something very agreeable to me in this confidence of protection, which I like to think that I have produced by constantly feeding them in winter, and never allowing their nests to be taken.

A robin, when its young are in danger, has a peculiarly plaintive note, which I am well acquainted with, and which I never hear without going to its assistance, when I generally find that a cat is prowling near the nest containing the young birds.

I may here mention a curious fact which was communicated to me by a gentleman who had it from Mr. Knight of Downton. A fly-catcher built in his stove, for several successive years. He observed that the bird quitted its eggs whenever the thermometer was above 71° or 72°, and resumed her place upon the nest when the thermometer sunk to a lower point. This fact leads us to account for another, respecting ostriches, which are observed by travellers to be ab-

* This piece of the mast, with a bust of Lord Nelson upon it, was subsequently placed at the upper end of the dining-room at Bushy. Both are now in the armory at Windsor Castle.

sent from their eggs in the day-time, but sit upon them during the night.

Robins, more than any other birds, I have noticed, vary the form of their nests and the materials of which they build them, according to the situation in which they are placed. Thus the robin which had its nest on the shelf of the greenhouse, surrounded it with a great quantity of oak-leaves; while another, which for two years built among the straw which covered some sea-cail in my kitchen garden, formed it of a small quantity of moss only lined with hair. Another, which built in a trained gooseberry-bush against the wall, used also moss and hair, with some few oak-leaves; and in some instances, where these birds have used a large hole in a bank to build their nest in, the sides of the hole have been completely filled in with a great quantity of oak-leaves. I am inclined to think that some birds, and the robin among the number, vary the materials with which their nests are built, not so much from the difficulty of procuring them, as for the purpose of assimilating them more nearly to the appearance of the objects which surround them. I have observed this in a wren's nest, built in the thatch of a shed, and in another in a hay-rick, both of which resembled in appearance and colour the surrounding objects. I have also observed that, when a chaffinch has built its nest against the branch of a tree, the moss or lichens which compose the exterior part of the nest are similar to those which are found on the tree itself; so that it is sometimes very difficult to perceive the nest. This fact is curious, as it shows a powerful instinctive foresight.

A long-tailed titmouse built its nest on the branch of an elm in Bushy Park. The branch is about the thickness of a man's leg, and the nest is so artfully placed upon it, and made so nearly to resemble the knot of a tree, that it is extremely difficult to perceive that it is a nest. In order to render the deception more perfect, the nest is by no means too large an excrescence from the branch, as it would be if it was as large as those built by the same species of birds in more concealed situations. On the contrary, it is small and compact, and covered with lichens so nearly resembling the bark of the elm, that, although the branch of the tree overhangs a foot-path, along which at least thirty workmen passed and repassed four times a day, and the nest was not more than two feet above their heads, it was a long time before any one of them perceived it.

This nest has a feather fixed so as to overhang the entrance, forming a sort of valve, and which was pushed in or out as the birds left the nest or came into it. It must have been placed there to add to the warmth of the nest, during the very cold weather which prevailed at the time the birds were laying their eggs.

The nest of the wood-pigeon, although composed of the rudest materials, (only a few dead sticks,) will be found admirably calculated for the purpose of concealment. How often have I observed the strong rapid flight of a wood-pigeon from a tree, and heard the noise produced by his wings, and yet have been unable to discover its nest! This has been owing to the deposits of dead leaves and small branches which have been accumulated in various parts of the tree, and which have exactly the same appearance as the nest itself.

The excrement of the young of many birds who build their nests without any pretensions to concealment, such as the swallow, crow, &c., may at all times be observed about or under the nest, while that of some of those birds whose nests are more industriously concealed is conveyed away in the mouths of the parent birds, who generally drop it at a distance of twenty or thirty yards from the nest. Were it not for this precaution, the excrement itself, from its accumulation, and commonly from its very colour, would point out the place where the young were concealed: when the young birds are ready to fly, or nearly so, the old birds do not consider it any longer necessary to remove the excrement.

Science of Cooking.—Liebig's *Chemistry of Food* contains a method for cooking meat, founded on scientific principles. It is recommended to introduce the joint into water in a state of quick ebullition, allow it to remain in this state for a few minutes, and then so much cold water is to be added as to reduce the temperature down to about 160°, in which state it is to be kept for some hours. By the application of boiling water at the first, the albumen is coagulated, so as to prevent the water from penetrating into the interior of the joint and extracting the soluble juices.—*English paper.*

Give us the meat—whether it be a North Carolina pea-fed, or a Maryland corn-fed ham, or a Philadelphia calf's head, and "Aunt Fanny" to cook it, and we would go against the great chemist for a premium any day!

THE ATMOSPHERE, VEGETATION, &c.

The atmosphere supplies the vegetable creation with the principal part of its food; plants extract inorganic substances from the ground, which are indispensable to bring them to maturity. The black and brown mould which is so abundant is the produce of decayed vegetables. When the autumnal leaves—the spoil of the summer—fall to the ground, and their vitality is gone, they enter into combination with the oxygen of the atmosphere, and convert it into an equal volume of carbonic acid gas, which consequently exists abundantly in every good soil, and is the most important part of the food of vegetables. This process is slow, and stops as soon as the air in the soil is exhausted; but the plough, by loosening the earth, and permitting the atmosphere to enter more freely, and penetrate deeper into the ground, accelerates the decomposition of the vegetable matter, and consequently the formation of carbonic acid. In loosening and refining the mould, the common earth-worm is the fellow-labourer of man. It eats earth, and after extracting the nutritious part, ejects the refuse, which is the finest soil, and may be seen lying in heaps at the mouth of its burrow. So instrumental is this reptile in preparing the grounds, that it is said there is not a particle of the finer vegetable mould that has not passed through the intestines of the worm; thus, the most feeble of living creatures is employed by Providence to accomplish the most important ends. The food of the vegetable creation consists of carbon, hydrogen, nitrogen, and oxygen, all of which plants obtain entirely from the atmosphere, in the form of carbonic acid gas, water and ammonia. They imbibe these three substances, and after having decomposed them, they give back the oxygen to the air, and consolidate the carbon, water, and nitrogen into wood, leaves, flowers, fruit. When a seed is thrown into the ground, the vital principle is developed by heat and moisture, and part of the substance of the seed is formed into roots, which suck up water, mixed with carbonic acid from the soil, decompose it, and consolidate the carbon. In this stage of their growth, plants derive their whole sustenance from the ground. As soon, however, as the sugar and mucilage of the seed appear above the ground, in the form of leaves or shoots, they absorb and decompose the carbonic acid of the atmosphere, retain the carbon for their food, and give out the oxygen in the day, and pure carbonic acid in the night. In proportion as plants grow, they derive more of their food from the air and less from the soil, till their fruit is ripened, and then their whole nourishment is derived from the atmosphere. Trees are fed from the air, after their fruit is ripe, till their leaves fall; annuals, till they die. Air-plants derive all their food from the atmosphere. In northern and mean latitudes, winter is a time of complete rest to the vegetable world, and in tropical climates, the vigor of vegetation is suspended during the dry, hot season, to be resumed at the return of the periodical rains. Almost all plants sleep during the night; some show it in their leaves, others in their blossom. The mimosa tribe not only close their leaves at night, but their foot-stalks droop; in a clover field, not a leaf opens till after sunrise. The common daisy is a familiar instance of a sleeping flower; it shuts up its blossom in the evening, and opens its white and crimson-tipped star, the "day's eye," to meet the early beams of the morning sun; and then also "winking Mary-buds begin to ope their golden eyes." The crocus, tulip, convolvulus, and many others, close their blossoms at different hours towards evening, some to open them again, others never. The condrille of the walls opens at eight in the morning, and closes for ever at four in the afternoon. Some plants seem to be wide awake all night, and to give out their perfume then only, or at night-fall. Many of the jessamines are most fragrant during the twilight; the olea fragrans, the daphne adorata, and the night stock, reserve their sweetness for the midnight hour, and the night-flowering sirius turns night into day. It begins to expand its magnificent sweet-scented blossom in the twilight, it is full-blown at midnight, and closes, never to open again, with the dawn of day; these are "the bats and owls of the vegetable kingdom."—*Mrs. Somerville.*

Three Faults in Nurses.—To lisp in a baby style, when the same words in an endearing tone would please as well. The reverse should be the practice; the voice clearly emphatic, and each syllable clearly articulated for imitation.—To tell of witches, ghosts, or goblins.—To direct a child to act like a man, whereas it is not becoming for a boy to ape the man, but only to conform his demeanour to his age: for every age has its own peculiar decorousness.

THE WHOLE DUTY OF WOMAN.

APPLAUSE.

Applaud not on slight acquaintance; be not over hasty in thy commendations.

For the deed that speaketh for thy sister may not be owing to a deserving motive; nor the words of her mouth proceed from the sincerity of her heart.

By giving applause rashly, thou mayest be reduced to recall thy opinion; and thy praises hereafter will not avail thy deserving friend.

Commend not thyself with thy lips; but let thine actions speak in thy behalf.

Yet the merit of thy deeds may be lost in ostentation, and she that seeketh praise will be disappointed therein.

Also, if thou disclaimest the encomiums to which thou art fully entitled, they shall be justly taken from thee again.

For she who affecteth to despise commendation, shall not enjoy the privilege thereof.

Be not exalted, though all men commend thee; for thou knowest not but the breath of a whisper may convert their eulogies into revilings.

Give not applause to another, because she bestoweth it on thee; lest the world detect thy motive, and thy words be held in derision.

Dost thou commend another for virtues more conspicuous in thyself, take heed lest thou art accounted the trumpeter of thine own deservings.

Be not too cold in the general applause, yet utter not thy praise without due deliberation.

Praise not a woman to the skies, for her most consummate perfection is inferior to the angels.

Thy friends will not thank thee for the extravagance of thy praise, for undeserved commendation is the severest satire.

Rather at all times reprove than applaud; for the child and the undistinguishing fool clappeth his hand in ecstasy; but the judgment of the understanding examineth and approveth.

CENSURE.

Be not fond of reproving, for she who assumeth the place of a censor will be esteemed arrogant, and she who reproveth others must look well to her own conduct.

For the ill example of the reprover is a scandal to her office, as the mal-conduct of the preceptor bringeth his precepts into contempt.

Beware how thou censurest, lest in like manner thou art censured.

Trust not to the appearance of a crime, nor to the breath of report.

For as the specious show of virtue may be hypocrisy, so the appearance of ill may be sometimes deceit.

The news of the day may awaken suspicion, but justice condemneth not without strict examination.

The report that prevaileth may be the workings of envy; and envy is uncharitable and delighteth in false accusations.

Prejudice is unjust; for the look is not the true index of the mind; neither doth a day or a week discover the behaviour of a stranger.

Be tender of the good name of others, so mayest thou find the same tenderness toward thine own indiscretions.

If thou art forced to condemn, condemn with gentleness and compassion; so shall thy praises last longer than thy beauty, and thy reputation, from the ornament of thy youth, become the comfort of thy age.

INSINUATION.

Let not thy praises savor of irony; nor thy compassion be mixed with evil reflections.

Insinuation is sly: the breath of her mouth is subtle, and penetrateth unobserved into the heart of her that heareth.

It is sharp as the east wind; it blasteth wherever it blows.

It is poisonous as the breath of the slow-worm; it is venomous as the lick of the young adder.

She affecteth to pity the backslidings of her friend; yet she taketh an opportunity to spread the knowledge of them abroad.

She speaketh in all gentleness of her neighbour, and concludeth wishing things were otherwise with her.

She crieth, it is hard to judge; but sayeth, can everybody be deceived?

The glance of her eye conveyeth evil thoughts, and the motion of her head giveth room for the apprehension of ill.

If she pointeth with her finger, yet sayeth nothing, her looks are more significant than the strongest phrase of speech.

Her silence is more destructive than the clamors of the loudest calumny.

Insinuation is barbarous and full of guile; she putteth on the face of friendship to abuse.

She smileth while she stabbeth to the

heart; she woundeth where she pretendeth love!

Be open in thy censure or censure not; for he who deserveth not reproof should be free from the breath of suspicion.

AFFECTATION.

Who is she that cometh tripping with nice, mincing steps, whose tongue lispeth sweetness, and whose form is not her own.

She hath put off herself, and decked her with the borrowed plumes of others, by whom she is despised.

She affecteth melody of voice, and harmony of speech, and wisdom, and importance, and dignity of deportment.

Her dress is antic and singular, her attire is gaudy or rich to excess.

She hath forgotten how to tread; she neither danceth nor walketh along.

She distorteth her features to appear lovely; she laugheth at nothing, to show the beauty of her teeth.

She washeth her cheeks till the native bloom departeth away; then painteth with the artificial rose.

She placeth herself in the midst of an assembly; she delighteth to dance alone; she sitteth in the foremost seat of the theatre.

She is pleased to hear herself speak; she listeneth not to the voice of another.

She breaketh in upon the discourse of her sister, and finisheth the sentence her neighbour hath begun.

She taketh on her to instruct the wiser than herself, and to teach what she understandeth not.

Dost thou laugh at her folly, she will pity thy ignorance, and go on in her own way.

She is incorrigible till she seeth herself in the form of another; yet even that may not make her sensible of her error.

Beware, O daughter of beauty, lest thou art misled by affectation; for thou wilt be neglected by others, till, by reflection, thou discoverest the cause, and art led to despise thyself.

MODESTY.

Behold the daughter of innocence! how beautiful is the mildness of her countenance! how lovely is the diffidence of her looks!

Her cheek is dyed with the deep crimson of the rose; her eye is placid and serene, and the gentleness of her speech is as the melting softness of the flute.

Her smiles are as the enlivening rays of the sun; the beauty of her presence as the silver light of the moon.

Her attire is simple; her feet tread with caution, and she feareth to give offence.

The young and the old are enamoured with her sweetness; she carrieth her own commendation.

She speaketh not the first in the conversation of women, neither is her tongue heard above her companions.

She turneth not her head to gaze after the steps of men; she inquireth not of them whether they are going.

She giveth not her opinion unasked, nor stoppeth her ears to that of another.

She frequenteth not the public haunts of men, she inquireth not after the knowledge improper for her condition.

So becoming is the behavior of modesty, so lovely among the daughters of women!

Is there who hath forgotten to blush, who playeth with the wanton glances of her eyes, who replenisheth the cup when the toast goes round, and despiseth the weakness of her sister.

Shame shall overtake her in the prime of her days, and the years of her widowhood shall be infamous as they are many.

INTREPIDITY OF A LADY.

A remarkable instance of intrepidity and coolness was exhibited at the Blue Lick Springs, a few days ago, by Miss L., a belle of Bourbon county in this State. Miss L. and Mr. F., a gentleman from the South, on their return from an excursion on horseback, were riding down the long hill, about a quarter of a mile from the hotel, at full speed, the lady being a little ahead. At a sudden turn of the road, the gentleman's saddle turned, and he fell from his horse, but his foot remained in the stirrup, and the horse, although his pace was somewhat slackened, kept on his way, dragging the fallen man upon the ground. The young lady seeing this, reined in her own horse by sudden effort, leaped from him while he was still in rapid motion, ran back, seized the other horse by the bridle, and released her gallant from his very perilous situation.

This feat was witnessed by hundreds at the Springs, who could find no words strong enough to express their admiration of the daring courage of the beautiful young heroine.—*Louisville Journal.*

ROSE INSECTS.

I HAVE made a discovery during the last week, which must be useful, I think, to all who grow roses extensively. I have long kept my rose trees quite clear of green fly and other spring vermin, by using a mixture, the receipt for which was communicated to my employer by Mr. Paul, the well-known nurseryman and rose-grower, of Cheshunt. The recipe is this:—To 12 gallons of cold water add 1 bushel of soot and about half a peck of unslacked lime; stir and mix. Let the mixture stand for 24 hours. The soot will have come to the surface; skim it off. It may be afterwards used several times. Syringe the roses from a hand-syringe or a garden-engine. But although this mixture is perfectly efficient during the spring, yet about this time of the year an enemy appears on whom it has no effect. This is a small white grub with a scaly brown head, the scales of which are of a surprising hardness and strength. It destroys the fleshy part of the leaves, leaving them skeletons of fibres, not unlike fine lace. Though curious, these destroyed leaves are in a mass unsightly. I need hardly add that this premature destruction of the leaves seriously injures the health and strength of the plants. I have, till very lately, been quite unable to get rid of this pest by any other method than the laborious one of picking them off by hand, which, in large collections, is all but impracticable. The lime and soot mixture, tobacco-water, snuff, sulphur, I have all tried in vain. I find, however, that by adding 1 lb. of soft soap to the 12 gallons of lime and soot water, this grub is effectually and quickly destroyed. The soft soap should be dissolved in warm water before it is added to the other ingredients.—*William Corvell, Haileybury, Hertford.*

The reason for giving place to things like the above, from English papers, ought to be obvious to all. They often afford hints that may be turned to practical account for other purposes than the one for which they were originally used. In this case, for instance, does it not occur that this mixture of soot water, and lime and soap, might be used for destroying the fly in the tobacco-beds and on various other occasions, such as insects on beds and vegetables, and shrubbery in gardens, &c.

AN ACUTE LADY.

LADY BROWNE and I were going to the Duchess of Montrose's. The evening was very dark. In the close lane under her park pales, and within twenty yards of the gate, a black figure, on horseback, pushed by, between the chaise and the hedge, on my side. I suspected it was a highwayman; and so I found did Lady Browne, for she was speaking, and stopped. To divert her fears, I was just going to say, "Is not that the apothecary going to the duchess?" when I heard a voice cry "Stop!" and the figure came back to the chaise. I had the presence of mind, before I let down the glass, to take out my watch, and stuff it within my waistcoat under my arm. He said, "Your purses and watches." I replied, "I have no watch." "Then your purse." I gave it to him; it had nine guineas. It was so dark that I could not see his hand, but felt him take it. He then asked for Lady Browne's purse, and said, "Don't be frightened, I will not hurt you." I said, "No, you won't frighten the lady?" He replied, "No, I give you my word I will do you no hurt." Lady Browne gave him her purse, and was going to add her watch, but he said, "I am much obliged to you; I wish you good night;" pulled off his hat and rode away. "Well," said I, "Lady Browne, you will not be afraid of being robbed another time, for you see there's nothing in it." "Oh! but I am," said she, "and now I am in terrors lest he should return, for I have given him a purse with only bad money, that I carry on purpose."

Evils of Taciturnity.—Persons advanced in years are prone to taciturnity; and it is to this circumstance that the diseases of the lungs, which so often carry them off, are in a great measure to be ascribed. The lungs need exercise as well as the muscles; and by reading aloud, by singing, and conversation, they may be preserved in a state of health. The advanced age of schoolmasters and other public speakers may perhaps be attributed to the exercise given to their lungs. Hence the importance to the aged of preserving an erect posture, to give their lungs full play.

EFFECT OF EARLY IMPRESSIONS.

As an evidence of the apparent trifles that make lasting impressions, and are sometimes followed by the most important results; and to show, too, how carefully parents should watch all the influences that may serve to give a set to the character, and to jeopard the happiness of their children, a case occurs within our remembrance, to which we may now allude, as no reader can guess at the parties; the fond, the devoted, the congenial, and the gallant brother, to whom alone the secret was confided, having long since followed the subject of it to "that undiscovered country from whose bourn no traveller returns."

The case was that of a young lady of surpassing personal beauty, and the highest order of intellect and feeling. Just then passing from childhood to womanhood, she was on a visit to Washington, and passing, in a picture gallery, from one object to another, a young gentleman, worthy of her whose purity he wished to guard from offence, contrived adroitly, and as he thought at the time without its being perceived, to put aside one which might do for the inspection of artists and professional eyes, but not, as he thought, proper for hers. Unfortunately, as it may have been, for her, she saw enough to discern the nice honor and delicacy of the action and the motive; and, whether, unconsciously, she was already prepossessed, from that moment he became the idol of her heart and dreams. After promise of reaching the highest points in the "steep ascent," *he* fell into an early grave, and *she*—she "fled also as a shadow and continued not!"

THE GRAVE OF THE BROKEN-HEARTED ONE.

May the softest drops from the fount of tears,
That holiest thoughts impart,
Fall, pure at the grief of childhood's years,
On the grave of the broken heart.
When the early springs their violets bring,
May the purple blossoms part;
And the maiden fragrance ever cling
Round the grave of the broken heart.

May the hues of the rainbow linger here,
With the shades of even blending;
While the murmurs of nature fill the ear,
Like the chants of saints descending.
Should the summer's sun look with ray so strong
On its young and tender flower,
Let the leafy trees spread their shades along
To temper his scorching power.

But as evening comes, and he sinks in the wave,
While the hours of the day are dying,
Let his last soft beams kiss the peaceful grave
Where beauty and youth are lying;
And when winter's snows in their whiteness shower,
Oh, pure may they rest on her clay!
And pure may they fade in the sunbeam's power,
As she faded from earth away!

THE BEAUTIFUL.

How beautiful, and bright, and fair
The impress that "God's" mercies bear!
His pencil paints the blooming flowers
That laugh beneath the summer hours:
It is his fragrance that the rose
Upon the wind so freely throws;
Alike beneath his powerful hand,
The hills and mountains at command,
Arose in majesty and height,
Mementos of his power and might.
The young moon shining upon high,
The snow-capp'd pillars of the sky,
The hopes that rise when troubles darkle,
The glow-worm lights that gleam and sparkle;
The Borealis, lovely light,
That crimsons o'er the northern night;
The ignis fatuus of the fen
That dances o'er the lonely glen—
All tell the power of that high hand
That holds us in its great command.
To love all beauty, is a joy
That savors least of earth's alloy.
It seems a remnant of that state,
Ere sin, and wo, and strife had date;
A lingering memory of the light
That shone around man's first birthright.
Oh! it with joy can gild the span
Of e'en the loneliest, lowliest man!

EMILY.